ScanShop ®
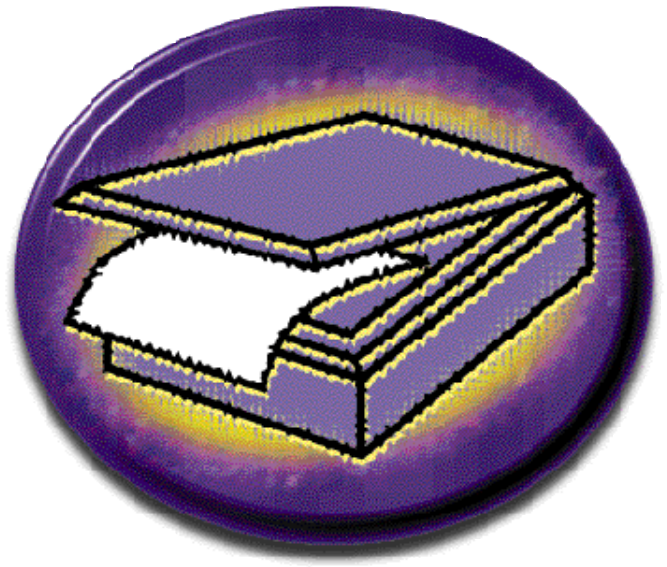## Users Guide

*Scan, print, store,
retrieve and display
your images.
ScanShop makes your
scanner easy to use!*

VIVIDATA
IMAGING SOFTWARE

For version 4.6

Copyright Notices

Request for Comments

In our effort to provide you with the best documentation possible, we welcome any comments and suggestions you may have about our products. Please direct communications to us at:

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Chapter 1: Introduction to Image Processing

Overview

In operation, ScanShop uses some underlying concepts that are basic to image scanners, scanning, and processing the scanned image.

About Scanners

Image scanners are computer peripheral devices that scan and convert images into digital data which are often referred to as bitmap or raster data. These scanned image data can then be processed and reproduced by computers and other devices.

The two popular kinds of scanners are the flatbed and the hand-held types. A flatbed scanner has a moving carriage similar to that of a copier. A hand-held scanner requires the user to drag the scanning device over the hard copy being scanned.

All scanners have a photoelectric sensor and a light source. The sensor detects the light that is reflected off the paper by the source and translates it into an electric signal. The electrical signals are further translated into digital data (rasters) which are in turn passed on to the computer. The computer then either stores the image data or goes on to additional processing (for example, Optical Character Recognition) to convert the data to another format.

About Resolution

Pixels (PIX [picture] ELEMENTS) are the dots that make up the screen image. Resolution is a measure of the density of these pixels in the image, and it is expressed in units of dpi (dots per inch). For any particular image, the higher the dpi, the more pixels it takes to compose.   There are four types of resolution that are important to comprehend in understanding the scanning process:

Monitor Resolution

Monitor resolution is the measure of the dpi which can be displayed on your monitor screen. A critical fact of scanning is that no matter how high your scan resolution is, you will only be able to view the image at the dpi supported by your monitor.

Scanner Resolution

Scanner resolution on the other hand, is the number of dots per inch that a scanner is capable of capturing. ScanShop allows you to designate a dpi which may be higher or lower than the base or true optical capability of your scanner. The scanner always scans at its base resolution but may have the ability to interpolate or extrapolate to other resolutions you specify. The following is a list of the base resolutions of some scanners supported by ScanShop:

Table 1:

Scanner	Resolution
Epson ES-300C	300 dpi
Fujitsu 3096G/H	400 dpi
Hewlett-Packard ScanJet 3C	400 dpi
Ricoh IS50	400 dpi
Ricoh IS60	600 dpi
Sharp JX-610	600 dpi

Output Device Resolution

Output device resolution is a measure of the output dpi capability of your printer or other such peripheral. Most laser printers produce output images at 300 or 600 dpi while imagesetters offer between 1270 and 3386 dpi.

Bit Resolution

Bit resolution, sometimes called "depth", is a measure of the number of bits per pixel. The number of shades or colors that can be represented as output from a scanned image is a function of the bit resolution. The higher the number of bits

per pixel, the more information there is that can be used to represent an image, and the larger the resulting file size. Black and white line art, for instance, has only 1 bit per pixel, that is, a bit in the image can be either 1 or 0 (black or white). Gray scale output, on the other hand, may have 4, 6 or 8-bits per pixel, yielding from 16 to 256 shades of gray. Color images typically have 24 bits per pixel (8 each for red, green and blue) and can represent up to 16.7 million colors.

Matching Scan to Output

For best results, it is important to scan images at the dpi which your output device will support. As a general rule, when a resolution value is specified for a scanning operation, it should be made the same as, or as close as possible to, the resolution of the output device that will be used for reproducing the image, i.e., the printer resolution.

When importing images into desktop publishing applications, any needed size modification of the image or the printout is generally done by the application itself to the user's specifications. When working with image editing applications however, the user is directly responsible for the image sizing. You need to be very much aware of the differences between input and output resolution because they can affect the size of the image dramatically. For instance, if you scan an image at 600 dpi but print it on a laser printer with only 300 dpi, your image will be twice as large as the original.

Common Image Processing Features

This section describes the fundamental ideas behind certain image processing functions. The scanners that offer these features implement them differently. These implementations are to be found in another section, "Appendix A: Scanner and Printer Specific Features" on page 59 for specific information on scanners.

Dithering

Dithering allows you to create the appearance of a continuous-tone image for line art (black and white) images (one bit/pixel scan). Dithering is similar to halftoning but dithering uses only dots of uniform size. Dithering is a method by which the scanner organizes the image into geometric configurations of black and white dots that give the illusion of gray. These dots can seem random, as seen in error diffusion dithering, or can be displayed in patterns of dots. Dithering options are particular to each scanner.

Gamma Tables

Gamma tables are useful for improving the appearance of scanned images or for removing undesirable components of scanned originals. This effect is attained by substituting values for pixels different from those read by the scanner's image sensor.

Monitors and output devices, being different kinds of devices, have different physics associated with their display of images — monitors transmit light; paper printouts absorb and reflect light. As a result, a scanned image displayed on a monitor or printed on paper will look different from its original. The difference between the original and a reproduction can be characterized by a gamma function.

Gamma features are provided in most scanners and provide results with no scanning-time penalty. ScanShop provides gamma table selections you can control to get the processing that you desire.

Chapter 2: Before You Begin

ScanShopType Conventions

Different kinds of typefaces used throughout this manual indicate text that will appear on the screen or need to be entered by the user.

Type:	Indicates text is:
courier	text generated by the computer
courier bold	text typed in by user
<brackets>	text to be replaced by user

When asked to enter commands preceded by a pound sign ('#'), the user should be in super-user mode or 'root' first. (The command to be entered does not include the pound sign itself.)

System Requirements

ScanShop is available for a variety of Unix-based workstations. The following platforms are currently supported:

Manufacturer	Operating System / CPU
Sun	Solaris SPARC (Solaris 2.7+)
Sun	Solaris x86 (Solaris 2.7+)
DEC	OSF/1 Digital Unix Alpha
HP	HP-UX PA-RISC
IBM	AIX RS/6000, PowerPC

Table 1: Supported Platforms

Manufacturer	Operating System / CPU
Linux: RedHat, Caldera, etc.	Linux x86 (Kernel 2.0 and higher)
SGI	IRIX MIPS

Table 1: Supported Platforms

If your platform is not listed above, you can contact Vividata, Inc. to see if your platform has been added since this printing of the manual.

- When printing a PostScript file you will need additional space in your temporary directory equal to the output size of your image. **Examples:**

Memory Requirements

- Minimum 32-64 MB RAM, depending on workstation configuration

- An additional RAM/swap space of at least twice the raw size of the image you are scanning/viewing (raw size = bits per pixel * width in inches * height in inches * dpi / 8). For better performance, ratio of swap space to RAM should not exceed 2:1.

Examples

Table 3:

Image Size	Resolution	Pixel depth	Additional memory required
8.5" x 11"	300 dpi	1 bit	3 MB
8.5" x 11"	300 dpi	8 bit	18 MB
8.5" x 11"	300 dpi	24 bit	50 MB
8.5" x 14"	300 dpi	24 bit	64 MB
8.5" x 11"	400 dpi	24 bit	88 MB
8.5" x 11"	600 dpi	24 bit	196 MB

Customer Support

You can reach the Vividata, Inc. technical support staff by:

- Email: support@vividata.com
- Fax: USA (510) 658-6597
- Telephone: USA (510) 658-6587
- World wide web: http://www.vividata.com/SupportShop

Customer Service is available from 8:00 AM to 5:00 PM (PST/PDT).

Chapter 3: Software and Hardware Installation

Overview

This section describes the installation procedures for ScanShop, including the License Manager and scanner hardware. Please consult the release notes supplied with this product for any last-minute information relevant to your particular system.

Installation Summary

There are two aspects to installing ScanShop software and your scanner hardware:

- Hardware installation
- Software installation

SCSI Printer and Scanner Installation Details

The following sections discuss the requirements and procedure for connecting your printer or scanner to the SCSI bus

SCSI ID's

You must select a SCSI ID for your printer(s) or scanner(s) that does not conflict with any other SCSI devices that are already on your system. Possible ID's range from 0 to 7 (some SCSI buses may support more, but our SCSI drivers only support this range). Typically, ID 7 is reserved for the computer's own SCSI host adapter. Other ID's are frequently taken by disk, CD-ROM, and tape drives. On most platforms, you will see a list of occupied SCSI ID's on the system console during boot up, or listed in a system-specific command display of device ID's. After you determine what ID's are not being used, consult your printer or scanner manual for setting its SCSI ID.

SCSI Cable Lengths

If you have a SCSI bus with SCSI-1 and SCSI-2 devices that do not operate in fast SCSI mode, the bus's total physical cable length should not exceed 6 meters (19.6 feet). On a bus with fast SCSI devices, the length should not exceed 3 meters (9.8 feet). On a bus with Ultra SCSI (SCSI-3) devices, the length should not exceed 1.5 meters (4.9 feet). At longer lengths, data integrity and transmission speed can be degraded significantly. The total cable length must take into account all external cabling as well as internal cabling in the system chassis or expansion boxes. Substandard cables will also affect the quality of transmission at longer lengths. If your cable configuration exceeds the lengths suggested above, you should either remove a device from your SCSI bus, use shorter cables to interconnect the components on the bus, or add another SCSI host adapter to your system. If you have a mixture of devices with different SCSI transfer speeds on a single bus, the cable length may be different from those listed above.

Termination

The last device at each end of each SCSI chain must have proper SCSI termination. An active terminator can be helpful in making a marginal SCSI configuration more reliable.

General Procedure for Attaching a SCSI Device

You need to power down your system and all attached SCSI peripherals completely before attaching any SCSI devices.

After you set the printer's ID as described above, re-cable the peripherals on the SCSI chain to include the printer. Make sure this chain is properly terminated.

Power on all SCSI peripherals, then power on the system. If necessary, take the appropriate steps to boot your system.

On Solaris 2.x systems, you may need to indicate that the /devices directory links should be rebuilt at boot time with "boot -r" from the monitor prompt ("ok") on SPARC platforms, "b -r" from the secondary OS loader on x86 platforms, or with a "reboot -- -r" command from the Unix shell. On other systems, the new device will be recognized automatically by the operating system.

If your system does not boot, power down the system and all SCSI peripherals, and re-check the cabling, termination, and SCSI ID settings

Installing ScanShop

Installing ScanShop on your system consists of a few simple steps. If you obtained your software from the Internet or on tape, proceed directly to "Internet or Tape Distribution" below. If you have your software on CD-ROM, you should skip the "Internet or Tape Distribution" section and proceed directly to "Running the Installer".

Internet or Tape Distribution

Before you install ScanShop, you must unspool the installation files into a temporary directory.

First, choose a temporary directory to use. You may use an existing one or create a new one. Then change to the directory and extract the installation files from your media or tar file:

- from 8mm tape, enter:

  ```
  # tar xf <tape device>
  ```

- from a file, enter:

  ```
  # tar xf <file name>
  ```

After you extract the files, your temporary directory should contain a number of new files, including:

File Name	File Contents
README.<product>	Read this first! If present, it contains information about installing the software that may not present in the manual.
RELEASE.<product>	Read this next! If present, it contains product version information, known bugs, and other release notes.
installer	The Vividata Installer, a GUI installation tool. Run this after you have read the README and RELEASE files.

File Name	File Contents
<product_name>.desc	Contains installation information for the Installer. Do not edit this file.
<product>.tar.Z	A compressed product archive file used by the Installer to install the software onto your system. Do not uncompress this file yourself.

Running the Installer

The Vividata Installer is a Motif-based graphical user interface (GUI) tool that will aid in the installation of Vividata's products onto your system. You must start the Installer from a console or terminal window within a X-based window manager. You may be required to interact with terminal messages, so do not launch the Installer from a file manager utility such as "dtfile".

Note to IRIX users: If you do not have the file /usr/lib/libsocket.so on your system, Installer will not run properly. You need to install this file from your IRIX Operating System CD-ROM under the package "IRIX Execution Environment", sub-package "System V Release 4 Networking" (you only need to install the sub-package).

If you extracted your installation files from an Internet or tape distribution, change to the directory where you extracted your files to, switch to superuser, and run "installer":

```
% cd <spool directory>
% su
# ./installer
```

If you have your software distribution on CD-ROM, change to your CD-ROM's root directory, switch to superuser, and run "Install":

```
% cd <CD-ROM directory>
% su
# ./Install
```

There are some problems users commonly experience. If you get an error message such as:

```
Xlib: Client is not authorized to connect to Server
```

you need to first disable X server access control as the owner of the X session by entering:

```
% xhost +
```

If you get an error message such as:

```
ld.so.1: ./installer: fatal: libXm.so.3: can't open file:
errno=2
```

either you do not have the LD_LIBRARY_PATH environment variable set properly or you do not have Motif 1.2 installed on your system. If Motif is not on your system, you need to install it. If Motif is on your system but in a non-standard path, you need to set the LD_LIBRARY_PATH environment variable to reflect its path:

```
# setenv LD_LIBRARY_PATH <everything it already has>:<Motif
libraries directory>
```

Directories where the Motif libraries often can be found

/usr/dt/lib

/usr/openwin/lib

/usr/lib/X11R5

/usr/X11/lib

Using the Installer

When you run the Installer, a welcome screen will be displayed.

Figure 3-1 Installer Welcoming Screen

Click Next, unless you have already installed the software and are re-running the Installer in order to enter your license keys (in which case, click Jump to Licensing, and go to "Installing the License Keys" on page 14).

The Installer will detect all available Vividata software packages and select all the packages it finds. To install all listed packages in the default directory, click Next. Otherwise, click Change Options to change the selection of packages or to change the destination directory.

Installing the License Keys

Your lmhostid will now be displayed (see Figure 3-2). If you have not yet obtained a license key, you will need to provide this lmhostid ready when you request your key(s) from Vividata. You will need to obtain your keys before PostShop can print. Key requests can be sent to keys@vividata.com.

Figure 3-2 Your lmhositd information

If you have already received your license keys from Vividata, click Next.

Otherwise, note your lmhostid, as this and your host name will be used to generate your license keys. Key requests should be e-mailed to keys@vividata.com. You will need to obtain your keys before ScanShop can be run normally

The License Setup dialog will now be displayed:
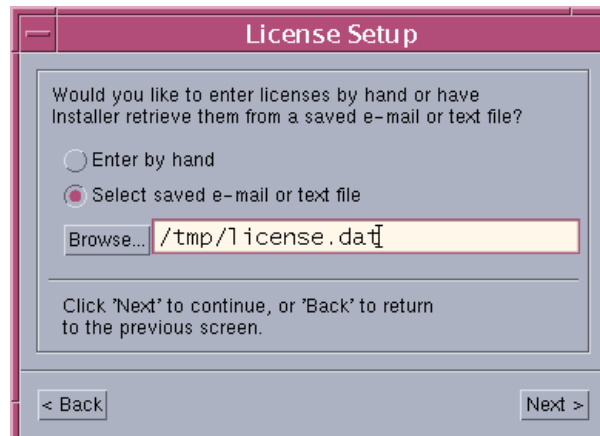
Figure 3-3 License Server Configuration

If you have your license key ready, you can select "Enter by hand" in which case you will be presented with a dialog as shown in Figure 3-4. This will allow you to enter your key or drag and drop it from an e-mail program. When finished press "Next".
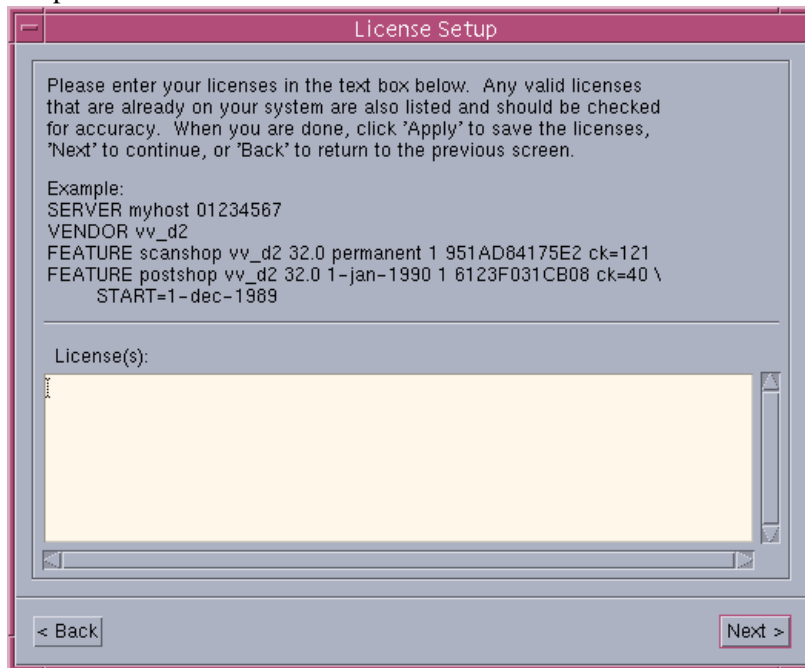
Figure 3-4 Enter by hand Dialog

If you choose "Select saved e-mail or text" the Installer will search the file you designate for the key data and display it in the License(s) box as shown in Figure 3-5.

```
┌─────────────────────────────────────────────────────────────────┐
│ ─                        License Setup                            │
├───────────────────────────────────────────────────────────────────┤
│                                                                     │
│  Licenses from the selected file have been placed in the text box   │
│  below.                                                             │
│  Any valid licenses that are already on your system have been       │
│  merged                                                            │
│  and should be checked for accuracy.  When you are done, click      │
│  'Apply'                                                            │
│  to save the licenses, 'Next' to continue, or 'Back' to return to   │
│  the                                                               │
│  the previous screen.                                              │
│                                                                     │
│  Example:                                                           │
│  SERVER myhost 01234567                                            │
│  VENDOR vv_d2                                                      │
│  FEATURE scanshop vv_d2 32.0 permanent 1 951AD84175E2 ck=121       │
│  FEATURE postshop vv_d2 32.0 1-jan-1990 1 6123F031CB08 ck=40 \     │
│        START=1-dec-1989                                            │
│                                                                     │
│  ─────────────────────────────────────────────────────────────    │
│  License(s):                                                       │
│  ┌───────────────────────────────────────────────────────────┐    │
│  │ SERVER navy 24352e41                                       │    │
│  │ VENDOR vv_d2                                               │    │
│  │ FEATURE ocrshop vv_d2 32.0 30-jun-2005 1 6B11E251D8E1 ck=32 \│  │
│  │         START=1-dec-1989                                   │    │
│  │ FEATURE postshop vv_d2 32.0 permanent 1 EAD8B776FAC0 ck=121│    │
│  └───────────────────────────────────────────────────────────┘    │
│                                                                     │
│  ┌──────┐              ┌───────┐                    ┌──────┐       │
│  │< Back│              │ Apply │                    │Next >│       │
│  └──────┘              └───────┘                    └──────┘       │
└─────────────────────────────────────────────────────────────────┘
```

Figure 3-5 Select File Dialog

Installing the Kernel SCSI Driver for SunOS 4.x, HP-UX 10.x & AIX

Now you are ready to invoke the installation script. This script will lead you step-by-step through the kernel driver installation, prompting you where necessary. To begin, go to the ScanShop directory and enter:

```
# ./bin/vv_install
```

The install script installs device drivers into the current kernel of the system. This system must be the one to which your scanner your printer will be connected. If the installation is NOT running from the target host, exit the installation program and install on the correct machine.

Configuring the Environment

Please see "# rm -r Vividata_directoryConfiguring the EnvironmentEnvironment Variables" on page 19 for details on setting up your environment.

Installation Complete

You are now ready to use ScanShop.

Demo Mode

If desired, you can verify your ScanShop installation before you get your license key(s) from Vividata, by running ScanShop in "demo" mode. This is the default mode if no license server can be found on your network, and it is identical to running with licensing, except that only preview scans are permitted.

Removing ScanShop

Should it be necessary to remove ScanShop from your system, follow the following procedures:

If you have a SunOS 4.x, HP-UX 10.x or AIX system...

You can remove the vvsc SCSI kernel driver using the uninstall script. After switching to super-user mode, enter:

```
# cd scanshop_directory
# ./bin/vv_uninstall
```

From outside this directory, the software can then be removed by entering:

```
# rm -r Vividata_directory
```

```
# pkgrm VVvvsc
# pkgrm VVlicense
```

pkgrm VVsshopmt To remove the software, switch to super-user mode and enter:

`#   rm   -r` *Vividata_directory***Configuring the EnvironmentEnvironment Variables**

A number of environment variables affect the operation of PostShop (and the applications that may use PostShop). These are normally either unnecessary or set automatically during installation, but you may want to change their default values if you are customizing your system. If you would like to check on their settings, you can inspect the wrapper script(s) in $VV_HOME/bin. An explanation of each environment variable follows:

VV_HOME is the location where ScanShop is installed. By default, /opt/Vividata on Solaris 2.x, and /usr/vividata on all other systems. It is set by default when the program is executed and need only be changed if there is some specific reason for doing so.

LM_LICENSE_FILE tells Vividata products where to look for the FLEXlm license file. For further information, please see the section "LM_LICENSE_FILE environment variable" on page 146.

VVP_FILTER provides a way for ScanShop to read file formats through a filter the user provides, thus extending the built-in set of file formats that are recognized. If a file fails to read through a built-in file reader, then the input is passed through the designated external filter to be converted to a recognized format. The value set should be the path to an external filter and any command-line options it requires. The filter must take stdin and output the results via stdout. The default filter is the mpage utility, which converts ASCII text to PostScript. Refer to any available references or help files for information regarding the usage of mpage and other common filters.

VV_JPEG_QUALITY affects JPEG file writing, ranging from 0 to 100. Values from 5 to 95 are generally the most useful; 100 is the best quality. Default is 75.

VV_JPEG_SMOOTHING affects JPEG file writing, ranging from 0 to 100. 0 is none; 100 is the most. Default is 0.

VV_MWM may be needed to make ScanShop interact with certain window managers properly. If images appear black or the colormap appears incorrect, try setting VV_MWM to 1. Otherwise, do not set this variable

VVNET enables ScanShop to access the manuals via the internet. Setting this variable (e.g. assigning it the value 1) activates linking to the completeScanShop documentation in HTML via Netscape (version 3.0 or later), and switches On-line Help to use HTML files within Netscape as well.

VVPRE_FILTER is similar to the VVP_FILTER, but different in that it is applied *before* any of the usual file format readers (or VVP_FILTER for that matter) are applied. Any designated filter needs to either process or pass-through any data intended to be read by ScanShop. The value set should be the path to an external filter and any command-line options it requires. The filter must take stdin and output the results via stdout. The default setting is "none".

Setting the Environment Variables

You can set the appropriate environment variable(s) in your .cshrc or .profile file. When the next C or Bourne shell is started, its environment will be automatically configured for Vividata's environment variables.

You can also add the name of the directory that contains PostShop to the PATH environment variable assignment in your .cshrc or .profile file. This will allow you to launch the user-level vvlpr and postshop gui applications from any directory.

After modifying your .cshrc or .profile file, logout from the system and then login again to start your session with the modified initialization files.

If you are running in a networked environment and you want to have only one license manager daemon running, make sure that each user's shell environment assigns the name of the host running the license server to the variable Printer Interface Script

Once you have configured PostShop to work with the Unix lp system, each print job you submit via postshop, vvlpr, lp, or lpr, will cause the Unix lp system to execute the appropriate printer interface script to properly configure the environment for calling PostShop's vvprint command-line driver. If you used ps_install to configure your printer, the interface script should already be configured properly. However, there may be instances where you need to customize a particular setting. You will find the printer interface script in one of the following directories:
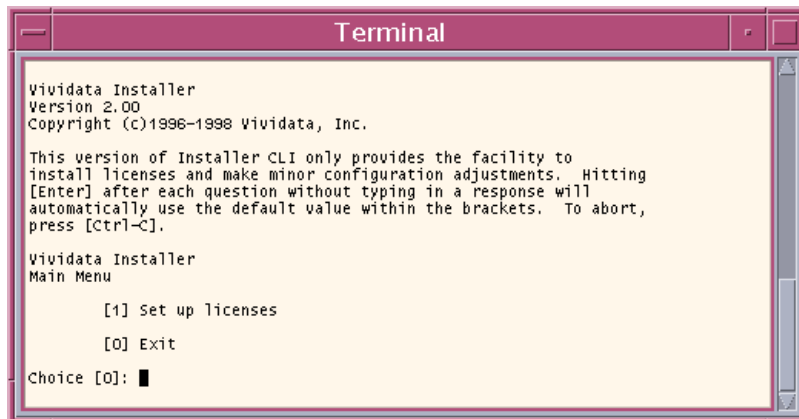
Operating System	Directory
SunSolaris 2.x	/etc/lp/interfaces
SunOS 4.x OSF/1, AIX	/usr/vividata/config
HP-UX 10.x	/etc/lp/interface
HP-UX 9.x	/usr/spool/lp/interface
IRIX 5 & 6	/var/spool/lp/interface

The name of the script is identical to the name of the printer, except that on some systems, an ".if" extension is added.

The following section describes user configurable environment variables in the printer interface script.

Installing the license keys using the character-based interface

If you are running in an environment without an X windows display, you can install the software manually (see any enclosed release notes and README files). After doing so, you can then use the character-based license installer program. When it starts up, you should see something like this:

.


```
Vividata Installer
Version 2.00
Copyright (c)1996-1998 Vividata, Inc.

This version of Installer CLI only provides the facility to
install licenses and make minor configuration adjustments.  Hitting
[Enter] after each question without typing in a response will
automatically use the default value within the brackets.  To abort,
press [Ctrl-C].

Vividata Installer
Main Menu

        [1] Set up licenses

        [0] Exit

Choice [0]: █
```

Chapter 4: Starting Up ScanShop

Overview

The ScanShop application can be run with or without the graphical user interface or GUI. Both ways are covered in the following sections:

- Running ScanShop
- Command Line Options

Running ScanShop

To run ScanShop using the GUI and the current default settings, simply go to the directory where you installed ScanShop and type:

`./scanshop`

(If you included the ScanShop directory in your PATH environment variable assignment, then you may begin running the program from any directory.)

The graphical user interface will then pop up and ScanShop will ready to be used.

Alternatively, if you want to pre-set certain program options from the command line, a number of command line options are available to run ScanShop without the graphical user interface.

Command Line Options

ScanShop has a command line interface which allows you to set certain program options at the time that you call up the program. In addition, a version of the program is provided which bypasses the graphical user interface, allowing you to scan and save images directly from the command line, or from within shell scripts, C programs, and other applications.

The command line syntax is as follows. For ScanShop with graphical user interface:

```
scanshop [options]
```

Without graphical user interface:

```
sshop_cli [options]
```

ScanShop options may be specified in any order in any or all of the following ways (in decreasing priority):

• On the command line,

• In an ifs settings file

• In the user's .scanshoprc file.

Only the first three letters of options are matched. The values assigned to options are either numbers, filenames, or dimensions. Native units for dimensions are "twelfths" (1/1200 inch), but a suffix beginning with letter **m**, **i**, **t**, or **p** indicates millimeters, inches, twelfths or pixels respectively.

Unless indicated otherwise, options that are not specified default to "0".

The individual options are described below:

```
-help
```
Print a screen of help text about CLI options to the standard output.

```
-v
```
Prints the version number of the application and of the Vividata vvsc SCSI driver if it is installed.

```
-id=[SCSI, GPIB]:[BUS #]:id
```
Select the scanner at **id**, if multiple scanners are present. For example, to select a SCSI scanner at ID 3 on BUS 0, use the following option:
```
-id=SCSI:0:3
```

```
-ifs=filename
```
Read ScanShop settings from filename, prior to processing settings from the command line (this is so command-line definitions will override file-based settings). ScanShop settings files may contain any number of ascii lines with "*option value*" pairs separated by a tab or space. Comments to be ignored are introduced by "#" and continue up to a newline.

```
-ofs=filename
```
Write latest ScanShop settings to *filename*, just before exiting.

-mode=n
Scan images in mode *n*, depending on whether image composition is text or photographs, etc. (use in conjunction with **bits** option).

Table 1:

=n option	Resulting Mode
0	binary
1	halftone
2	gray
3	color (special binary)
4	color (special halftone)
5	color

-bits=n
Scanner will return *n* bits per pixel (use in conjunction with **mode** option).

-xres=n
Scan resolution (x direction) is *n* dots-per-inch. Default is 200.

-yres=n
Scan resolution (x direction) is *n* dots-per-inch. Default is 200.

-ulx=n
Define scan window, upper left corner, x offset, at *n*. A suffix of **m**, **i**, **t**, or **p** indicates units; otherwise twelfths, (1/1200 in), is assumed.

-uly=n
Define scan window upper left corner, y offset, at *n*. A suffix of **m**, **i**, **t**, or **p** indicates units, otherwise twelfths, (1/1200 in), is assumed.

-width=n
Scan window is *n* wide. A suffix of **m**, **i**, **t**, or **p** indicates units, otherwise twelfths, (1/1200 in), is assumed.

-length=n
Scan window is *n* long. A suffix of **m**, **i**, **t**, or **p** indicates units, otherwise twelfths, (1/1200 in), is assumed.

-scanarea=size
Set scan area to standard paper **size**. This is equivalent to specifying
values for **ulx**, **uly**, **width**, and **length** for standard paper sizes. Note
that when **feeder** or **xfeed:yfeed** values are specified, the **scanarea**
and **ulx:uly:width:length** values default to the same area as that of
the feeder.

Table 2:

Size	Dimensions
letter	8.5" x 11"
letterL	11" x 8.5"
legal	8.5" x 14"
11x17	11" x 17"
a2	420mm x 594mm
a3	297mm x 420mm
a3L	420mm x 297mm
a4	210mm x 297mm
a4L	297mm x 210mm
a5	148mm x 210mm
a5L	210mm x 148mm
b4	257mm x 364mm
b4L	364mm x 257mm
b5	182mm x 257mm
b5L	257mm x 182mm

-feeder=size
Enable automatic document feeding of page size. Default is 0 (off)
which disables the feeder and causes a flatbed scan. Values for the *size*
parameter are the same as for the **scanarea** option above.

-feeder=xfeed:yfeed
Enable automatic document feeding of custom page size *xfeed* by *yfeed*. A suffix of **m**, **i**, **t**, or **p** on *xfeed* or *yfeed* specifies units, otherwise twelfths, (1/1200 in), is assumed.

-xfeed=n
See above.

-yfeed=n
See above.

-double
Scan in duplex or double sided mode on duplex scanners..

-compress=n
Perform compression on the image data, using compression hardware in the scanner, if available. Use in conjunction with "**format=0**" (tiff format). These values are read in from (any and/or all of) the .scanshoprc file, the ifs file, and the command line. They are then used for scanning and finally written out to an ofs file (when specified).

Table 3:

=n option	Compression Type
0	none
1	g3.1
2	g3.2
3	g4.2
5	lzw
6	packbits

-swcompress=n
Override use of image compression hardware; always use software image compression. (Default value is 0, indicating that hardware compression will be used when the scanner has this ability.)

-contrast=n
Sets level of contrast used during scanning to *n*.

`-bright=n`
Sets level of brightness used during scanning to *n*.

`-thresh=n`
Level at which scan data is converted to binary data is *n*. The default, 0, indicates automatic thresholding; otherwise, values from 1 to 255 indicate increasing threshold levels.

`-binfilter=n`
Binary filtering parameter (emphasis) is *n*. Combinations may be constructed by bitwise "OR"-ings of values together:

Table 4:

`=n option`	Binary filtering
`0x00`	none
`0x10`	mixed
`0x20`	lowemp
`0x40`	mediumemp
`0x80`	highemp
`0x01`	bold
`0x02`	edge/outline
`0x04`	smooth
`0x08`	speckle

`-htcode=n`
Halftoning algorithm to use is *n*.

`-htdata=filename`
Download binary halftoning array from the file named **`filename`**. (Not currently supported.)

`-htid=n`
Halftone pattern number to use is *n*.

`-invert=n`
Return image with intensity scale inverted (*n*=1), or normal image (*n*=0).

-mirror=n
Return horizontal reflection (*n*=1), or normal image (*n*=0).

-format=n
Output file format is *n*, taken from the following list:

Table 5:

=n option	File Format
0	tiff
1	ras
2	epsi
3	x11
15	pal_tif
17	gif
19	jpeg
20	mtiff (multipage)
21	png
22	xwd
23	rgb (Silicon Graphics)
24	rgb-rle (SGI)
28	pdf (Adobe)

-log=filename
ScanShop will append a control/status (text) record for each scan to file *filename*. Default is to record no log. (Not currently supported.)

-number= n1:n2:n3
Scan sequential pages to numbered files, starting with page number *n1*, stopping with page number *n2*, and using step size *n3*. If stop page number (*n2*) is 0 or not defined, then scanning will run until the feeder is empty. If step size (*n3*) is 0, scan [**stop - start +** 1] sequential pages

into a single (multi-page TIFF or PDF) file. The exit code of sshop_cli will be the number of pages scanned.

-start=n1
See above.

-stop=n2
See above.

-step=n3 See above.

-ifile=filename
When the GUI version of ScanShop is launched, pre-loads the base window canvas with image data from file *filename*.

-ofile=filename
Write resulting scan data to file *filename*. Default name is "scan.tmp". When using page auto-numbering with multiple scans, *filename* should contain a "%d" (or similar printf-style format specification) to indicate where the page number is to be inserted. If any **number** option parameters (**start, stop**, or **step**) have been assigned, ScanShop will append "%d" by default.

-fsbfilter=pathname
Sets the path/filter for Motif/OpenLook file selection boxes (not valid for **sshop_cli**).

-pdpi=n
Specifies the dpi (dots per inch) of images read from files which do not denote dpi explicitly. Affects printed size.

-debug=n
Diagnostic trace level set to *n*.

Examples

To scan an 8" by 11" document to file tmp.rs:

```
% sshop_cli -bits=1 -length=11i -width=8i -format=ras\
 -ofile=tmp.ras -xres=200 -yres=200
```

Same as above, but using settings file "letter.ss":

```
% sshop_cli -ifs=letter.ss
```

The file letter.ss contains:

```
format        ras
```

```
bits            1
length          10in
wid             8in
ofile           tmp.ras
xres            200
yres            200
```

To enable automatic document feeding, and scan ten pages to files named page01, page02, …, page10:

```
% sshop_cli -ifs=letter.ss -feed=letter -number=1:10 \
 -ofile=page%02d
```

Many users find it handy to have ScanShop come up running with the same settings they had in their previous session. You can define ScanShop's command line to read in the settings it created as it exited in each previous run (C shell example shown below.) Each time you quit ScanShop it automatically writes out a .scanshoprc file in the user's home directory.

```
% scanshop -ifs=~/.scanshoprc
```

Another use of the .scanshoprc file is to record all of the settings in effect from an interactive GUI session of ScanShop for subsequent use in an invocation of sshop_cli. You can get a complete view of all the settings, edit the settings, and then save them out under a different name for use with the sshop_cli.

```
% sshop_cli -ofs=claim_form1.ss
```

```
% vi claim_form1.ss
```

```
% sshop_cli -ifs=claim_form1.ss
```

Return Status

When using the CLI, ScanShop will return the number of pages successfully scanned as its exit status. This is accessible to Bourne and C shells, C programs, and any other programs that call ScanShop to do batch scanning. Here's how to access the return values:

Bourne shell: $?

C shell: $status

C programs: status = system("scanshop…");

File Locking

For back-to-back integration with other programs such as OCR APIs, Databases, etc., ScanShop applies file-locks to the image files. The locks are released as each image file is completed. In this way, an application waiting to open image files that appear in a directory can be automatically awakened by the OS when ScanShop releases the lock. This feature is somewhat OS-dependent and may not be supported on any particular platform.

Chapter 5: Using ScanShop

Overview

This section provides full details on the ScanShop main screen, including scanning and printing images.

The Main Screen

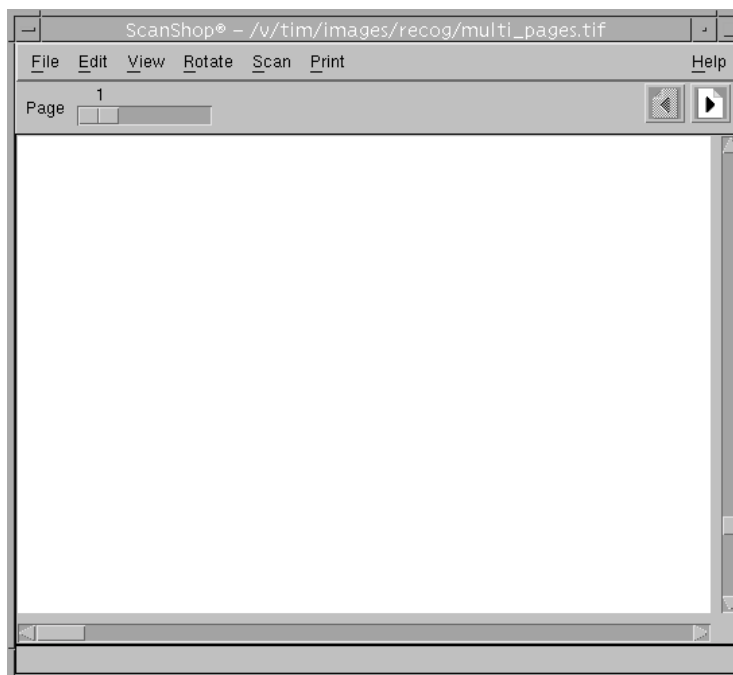When ScanShop is run with the graphical user interface, the main screen appears. Figure 5-1.

Figure 5-1 ScanShop Main Screen

Following is a brief summary of the main components of this screen, described in order from top to bottom:

Title Bar

Displays the name of the currently displayed file, if the file has been saved.

Menu Bar

Contains all controls for scanning and printing images, as well as controls for image manipulation and viewing, and file handling. The on-line help system is also here.

Page Select

For multi-page images, lets you select which image is being displayed. The desired image can be chosen by using either the slider bar or the forward and backward page turn arrows.

View Window

Displays the active image. If the image size exceeds the size of the view window, use the horizontal and vertical scrollbars to display the desired portion of the image.

Status Bar

Displays status messages and warnings.

The ScanShop Menu Bar

Summary

Figure 5-2 ScanShop Menu Bar

Following are descriptions of the various selections available under each of the menu headers.

File

Has the options for opening files, saving files (and saving as different file outputs) and exiting the program.

Edit

Has the edit, undo and crop functions to manipulate image output.

View

Has the fit to window, size controls and zoom functions.

Rotate

Has the functions for rotating images and mirroring across a vertical or horizontal axis.

Scan

Has the functions for initiating a scan and for the scanner set-up.

Print

Has the functions for initiating a print and for the printer set-up.

Help

Has the on-line help and product information.

File

The FILE menu offers the commands that allow you to read and write ScanShop's image files, as well as to exit ScanShop.
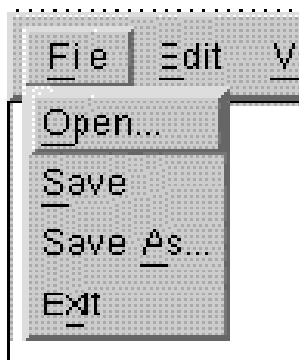

Figure 5-3 File Menu

Open

Open will allow you to bring any supported image into ScanShop, automatically reading in appropriate file format information. If you have been scanning and editing an image prior to invoking the load command, ScanShop will ask you if you want to save your image before loading a new one.

Save

Save will save the image over the current file. If there is no current file, Save has the same effect as Save As…

Save As…

When you choose Save As…, you will get a pop-up dialog that allows you to enter the directory and filename for your image. From this dialog you may also choose the desired image format. Which image formats are available depends on the number of bits/pixel of your image.

Exit

Selecting Exit will cause ScanShop to exit normally. If you have specified the "ofs" command line option, a ScanShop settings file will be written.

View

The VIEW menu provides controls that change the appearance of the image ScanShop is displaying.
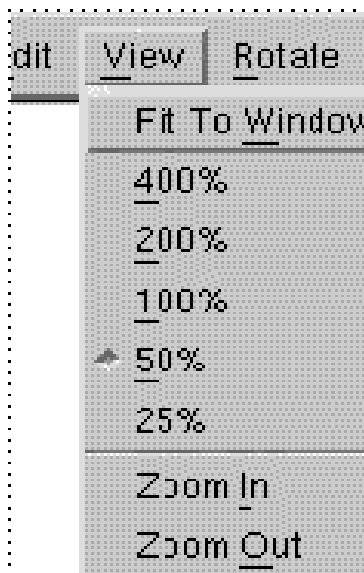
Figure 5-4 View Menu

Fit to Window

This view option will scale your image to fit in the current window. Additionally, every time you resize the window or crop your image, your image will be rescaled accordingly.

Note: Windows cannot be shrunk below a minimum window size.

400%, 200%, 100%, 50%, 25%

These are the built-in zoom options for viewing. 100% is a magnification of 1:1 — i.e. every pixel in the image is displayed as one pixel on the screen.

Zoom In, Zoom Out

These are the built-in zoom level steps for viewing. For a given viewing zoom, Zoom In enlarges the image area and Zoom Out shrinks the image.

Important Note: The View options only modify the appearance of the image on the screen, not the actual size of the image data.

Edit

The EDIT menu allows you to crop an image to desired dimensions and to undo the most recent image manipulation.
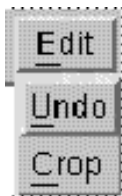
Figure 5-5 Edit Menu

Undo

Undo will undo the most recent rotation, mirror, or crop operation.

Crop

Crop allows you to cut away the outer portions of an image, leaving the image you wish to save. Use the selection cursor to drag a selection box around the portion of the image to be saved. Choose Crop and everything outside the box will be deleted. You can always undo a Crop if you choose Undo immediately after cropping. The selection box can be adjusted by click-dragging on any of its "handles," and you can click-drag the center of the box to change its position.
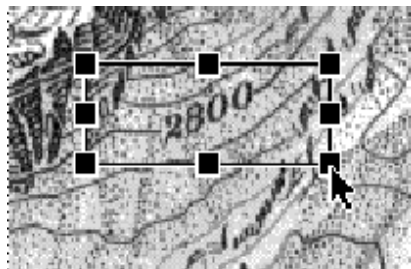
Figure 5-6 Cropping an Image

Rotate

The ROTATE menu provides commands to rotate and flip the image.
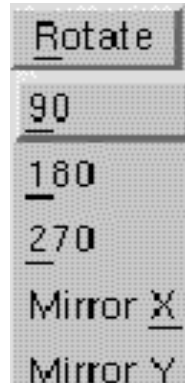
Figure 5-7 Rotate Menu

90, 180, 270

To rotate your image counter-clockwise 90, 180 or 270 degrees, choose the appropriate menu selection.

Mirror X

Mirror X horizontally mirrors your image across a central vertical axis. You could say that it "reverses left and right".

Mirror Y

Mirror Y vertically mirrors your image over a central horizontal axis. You could say that it "reverses top and bottom".

Scan

The SCAN menu provides access to the scanner set-up section and allows you to execute an image scan.
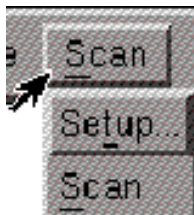
Figure 5-8 Scan Menu

Setup…

Selecting Setup… opens the Scanner Setup Dialog. (More details are in another section: "Chapter 6: The Scanner Set-up Window" on page 45.)

Scan

Selecting Scan will initiate an image scan, using the current settings and scan area selection.

Print

The PRINT menu provides access to the printer set-up section and allows you to print an image.
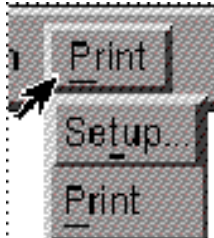
Figure 5-9 Print Menu

Setup…

Selecting Setup… opens the Print Controls Dialog. (More details are in another section: "Chapter 7: The Printer Set-up Window" on page 53.)

Print

Selecting Print will print the image, using the current printer settings.

Help

The HELP menu provides access to the on-line help system and to ScanShop product information.

Figure 5-10 Help Menu

On-line Help

Selecting On-line Help calls up the help library. If the VVNET environment variable has been set, the application will attempt to use HTML versions of the on-line documentation under Netscape (version 3.0 or later).

Product Information

Selecting Product Information displays release information for your version of ScanShop, as well as Vividata contact information.

Manuals

If the VVNET environment variable has been set, selecting Manuals causes the application to search for local HTML copies of the ScanShop documentation and open them in a Netscape Browser (version 3.0 or later). If it can't find them locally, it attempts to link to them through the Vividata website, using a Netscape Browser.

Chapter 6: The Scanner Set-up Window

Overview

The Scanner Set-up window appears when you select Setup... from the Scan pull-down menu.

The Scanner Set-up window contains a set of standard scanner features and a number of features specific to your particular scanner. ScanShop automatically determines which features are available for your scanner and displays the appropriate control elements. Extended image processing features specific to your scanner are available through the Options... button.

In this chapter, the standard scanner features are described. For specific information about the supported scanners and screnn shots of their Scanner Set-up windows and options windows, please see Appendix A, "Scanner and Printer Specific Features",.

The Scanner Set-up Window
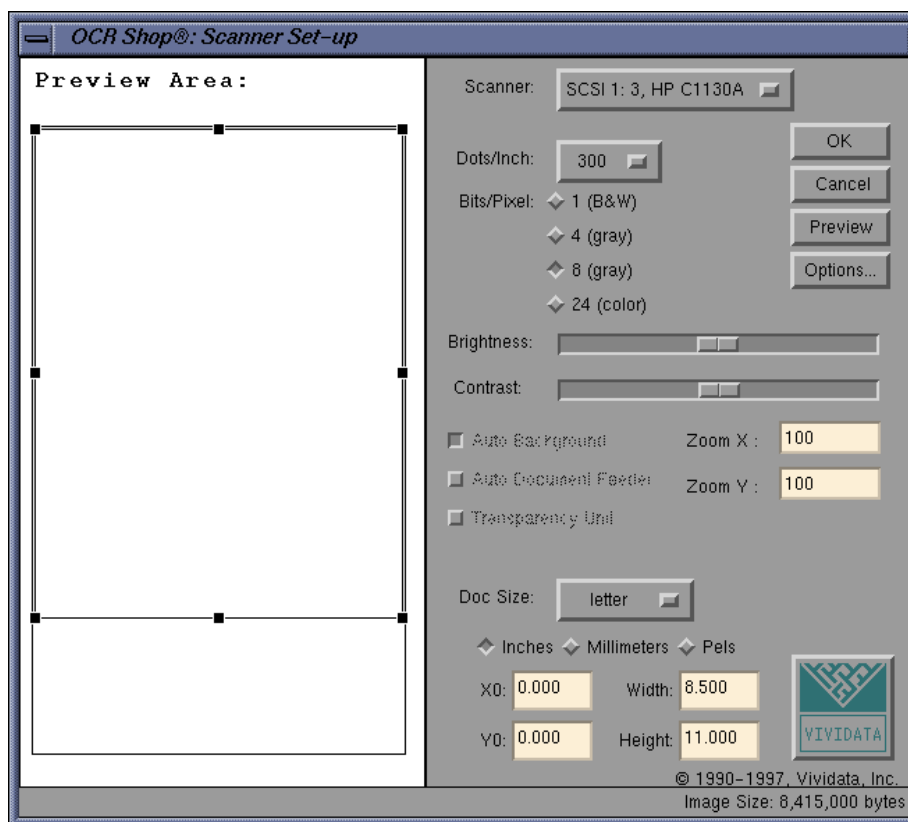
Figure 6-1 Scanner Set-up

The Scanner Set-up window is divided into two sections. The left half is the scan preview area. It contains an area surrounded by a solid line, which represents the scannable area. Inside this area is a resizable selection box containing the portion of the image to be scanned. By click-dragging the corners of the selection box, you can change the size of the region to be scanned. By click-dragging the center of the box, you can move it to another location on the page.

The right half contains the scanner controls. The standard menus and buttons that appear on the right side are described in this section.

Scanner

Click on the Scanner menu button to see all the available scanners. If you have no supported scanners connected, the first item in the box will say "No Scanners Available". The last item will always be "show all devices".

Figure 6-2 Selecting the Scanner

The "show all devices" option pops up a dialog which gives you a list of all the SCSI host IDs, the SCSI devices connected to them, and their status. This is a useful feature for determining which SCSI IDs are available, as well as which devices are currently connected. Also, if you have a National Instruments GPIB driver and interface installed, GPIB devices will appear at the end of the list. You can use the scroll bar on the side of the window to view all of the items listed.
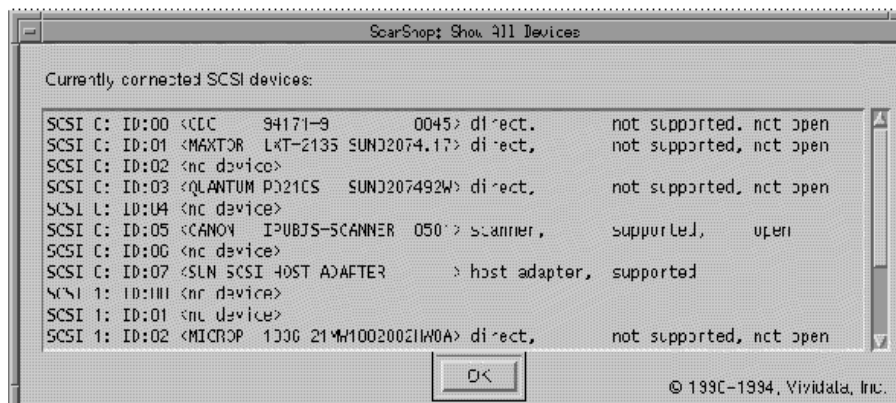
Figure 6-3 Device List

Dots per Inch

The resolution of the scan is user-definable to the extent that the selected scanner allows. The choices are listed in this button menu. When you choose "other", a pop-up dialog will enable you to set other values and/or separate x and y resolutions (not supported by all scanners).
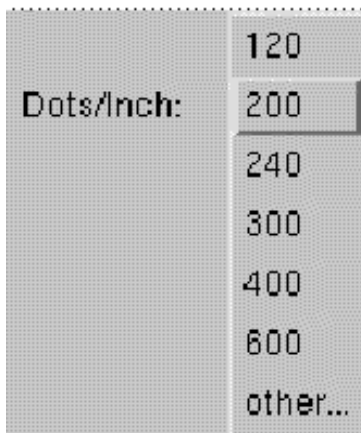
Figure 6-4 Selecting Dots Per Inch

Bits per Pixel

A bit is the basic atom of information in the computer. The bit resolution is the number of bits used to represent each pixel.
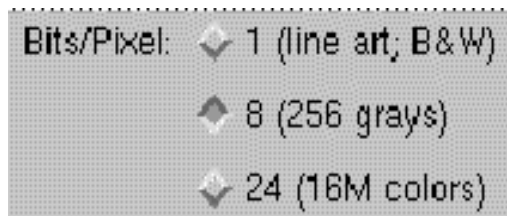
Figure 6-5 Selecting Bits Per Pixel

Different selections will be displayed depending on which scanner you have selected.

The following table lists the bits per pixel and pixels per byte required for different types of images:

Table 1:

Image Type	Bits/Pixel
Line Art/B & W Images	1
Grayscale (16 grays)	4
Grayscale (64 grays)	6
Grayscale (256 grays)	8
Color (16.7 million colors)	24

Remember that the more information stored per pixel and the greater your dpi, the larger your file size will be. An 8.5 x 11 inch image at 120 dpi and 1-bit resolution will have a file size of 164K, at 4-bits 655K, at 8-bits 1.3 MB, and at 24 bits 4.0 MB. For a description of Bits per Pixel, please refer to "About Resolution," in the "Introduction to Imaging and Image Processing" chapter. (The file sizes for 6 and 8 bits/pixel images are the same because 6 bit pixels are stored in 8 bit bytes.)

Brightness

The brightness is set with a slider bar, with a higher degree of brightness at the right end of the scale, and a lower degree of brightness at the left end of the scale.

Figure 6-6 Selecting Brightness

Threshold

The threshold control, available on certain scanners for 1 bit/pixel scans, determines the balance of black and white pixels in the scanned image. You can specify a certain intensity as the threshold, and the scanner will convert all the

pixels that are lighter than the threshold to white and all pixels that are darker than the threshold to black. The effects of thresholding are most noticeable when an image with many medium gray shades is scanned.

Figure 6-7 Selecting Threshold

The Threshold option works in 1 bit/pixel mode only. In gray-scale and color modes, the Threshold option is disabled (i.e. grayed out).

Automatic Document Feeder (ADF)

The Automatic Document Feeder (ADF) (not shown in the scan window example above) feeds documents for scanning in portrait (vertical) or landscape (horizontal) orientation. Automatic Document Feeders are standard for some scanners, and either optional or not available for others.

Figure 6-8 Selecting ADF Usage

Document Size

You can specify the area to be scanned from a predefined list of typical paper sizes, or define your own area by using the mouse, or by entering the dimensions numerically through the keyboard. ScanShop dynamically loads information about standard document sizes supported by your scanner (for example, letter, legal, A4, etc.). The Document Size menu button will display them and you may

select any of the presets available in the list. Common document sizes are listed here.

Table 2:

Document Name	Inches	Millimeters
letter	8.5x11	216x297
legal	8.5x14	216x356
A3	11.7x16.5	297x420
A4	8.27x11.7	210x297
A5	5.82x8.27	148x210
B4	9.8x13.9	250x353
B5	6.9x9.8	176x250

To select an area to scan within the preview area, drag the rubber-band selection box around the area you wish to scan. Alternatively, enter the x and y origins as well as the desired scan width and height in the editable text fields provided for these values. All dimensions can be entered and displayed in inches, millimeters or pixels (pels).

Important Note: To enter origins and dimensions from the numeric keypad on the keyboard, you must enable Number Lock on the keypad.

Image Size

The image size is displayed in bytes at the bottom right-hand corner of the scan setup window. It changes dynamically as you change the scan area or modify the dpi or bits-per-pixel resolution.

Preview

This button will initiate a preview scan. To produce the preview image, the scanner makes a fast scan of the full scanning area at the lowest possible dpi and

displays it in the preview area. This is a useful, time-saving feature for the following operations:

Checking Scanning Options

When you modify the scanning options for your image, you can use Scan Preview to check the results prior to invoking a full-resolution scan. Scan Preview supports all the scanner options except the Automatic Document Feeder (ADF), which must be disabled, and horizontal mirroring.

Checking the Scanning Area

If you only need to scan a portion of the image, select that portion by holding down the selection button and drawing a box around it in the preview area. A preview scan can be used to verify the enclosed area. When satisfied, click Scan to commence full dpi scanning.

Scan

Scan will initiate a scan of the selected scan area using the scanner's current settings.

Options

Options pops up a dialog which gives you access to the extended imaging features of your scanner. To activate an option, click on the applicable button box. For more details, please see "Appendix A: Scanner and Printer Specific Features" on page 59 for more information about your scanner's particular features.

Chapter 7: The Printer Set-up Window

Overview

The Printer Set-up window provides controls for the position, orientation, geometry, and general treatment of the image from ScanShop's Main Window. ScanShop must have an image loaded before it can bring up the Printer Set-up window. Once an image is loaded, select `Setup...` from the Print pull-down menu.

The Printer Set-up window contains a set of standard printer features and a number of features specific to your particular printer. Controls are provided for printer resolution, brightness, document size, print area, and selection of paper sources. ScanShop automatically determines which features are available for your printer and displays the appropriate control elements. Extended image processing features specific to your printer are available through the Options... button.

In this chapter, the standard printer features are described. For specific information about your printer and a picture of its Printer Set-up window, please refer to another section, "Scanner and Printer Specific Features" on page 59.

The Printer Set-up Window
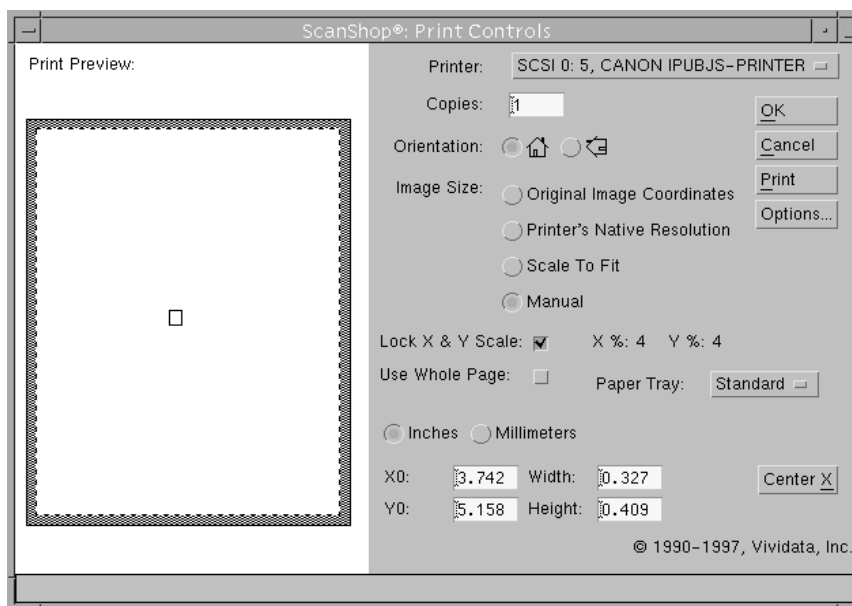
Figure 7-1 Printer Set-up Window

The Printer Set-up window is divided into two sections. The left half is the print preview area. It contains an area surrounded by a solid line, which represents the printable area. Inside this area is a resizable selection box containing the image to be printed. By click-dragging the corners of the selection box, you can change the size of the image to be printed. By click-dragging the center of the box, you can move the image on the page.

Note: Kodak 8600 and 8650 printers will always center images on the page.

The right half of the Printer Set-up window contains the printer controls. The standard menus and buttons that appear on the right side are described here:

Printer Selection

Available printers fall into three categories:

1. Direct Bus Printers -printers attached locally either via SCSI or GPIB

2. PostShop Printers - supported printers (either local or remote) via any print queues served by PostShop,

3. Postscript Printers - local or remote Postscript-capable printers

DIRECT BUS PRINTERS

As long as these printers are supported by ScanShop and ScanShop is licensed for printing, these printers should appear in the list. You can use `Show All Devices` in the GUI to check to see if the printer is supported and opened.

POSTSHOP PRINTERS

If the printer is local, it should appear in the list automatically. If the printer is remote, you will need to insert a line of the form

```
# vvprint config_file=<configuration file>
```

into the printer configuration file. The configuration file will be /etc/printcap on BSD based systems (SunOS 4.x, DEC/OSF1) and the interface file for SVR4 based systems (Solaris 2, SGI, HPUX). The interface file will usually be found at /usr/spool/lp/interface/<queue name>, though on Solaris it will be at /etc/lp/interfaces/<queue name> (Note: For remote queues on Solaris, the file will not exist and needs to be created). Please refer to the PostShop Users Manual.

POSTSCRIPT PRINTERS

In most cases, the printer should appear in the list automatically. The exception is the case of a remote printer on an SVR4 system where the interfaces script is not created automatically (i.e. Solaris). In this case, one can simply create the file by typing:

```
touch /etc/lp/interfaces/<queue name>
```

Click on the Printer menu button to see all your available printers. If you have no supported printers connected, the first item in the box will say "No Printers Available". The last item will always be "show all devices".

The "show all devices" option in the Printer menu functions identically to that in the Scanner menu in the Scanner Set-up window. For more, please refer to another section, "Scanner" on page 47.

Copies

The Copies control allows you to specify the number of copies that will be printed when you select the Print button.

Orientation

The Orientation Control allows you to specify whether your image will be printed with Portrait (default) or Landscape orientation. The icons used to represent Portrait and Landscape are the house standing up and the house turned 90 degrees counterclockwise.

Image Size

The Image Size control is one of the most powerful controls in the ScanShop printing software. There are four settings available:

*   Original Image Coordinates

    Select this to scale your image according to the information about its size from when it was read from an image file or scanned. Not all image files save dpi (dots per inch) dimensional information. In such cases, a default of 72 dpi is assumed (unless overridden by the "pdpi=n" command line parameter).

*   Printer's Native Resolution

    Select this option if you want to guarantee that every pixel in the original source image will be printed as one pixel in the output. This action will occur regardless of any differences in the source image's and printer's dpi, so the size of the printed image may not be the same as that of the scanned original.

*   Scale To Fit

    This is useful when you want the image to fit exactly within the full printable area of the selected printer. One result of this process is that images with different sizes will be printed with different magnification or reduction ratios to make them fit.

- Manual

   This will be the selection indicated if you manually drag the resize handles of the image icon on the left side of the Printer Set-up window, or if you enter values in the numeric fields. The units for entered values can be selected as Inches or Millimeters.

Lock X & Y Scale

This check box control (on by default) will keep your manual scaling settings applied equally to the height and width of your image when it is selected. If you uncheck it, then your manual scalings will not necessarily be symmetric. In other words, you will be able to print your image in a squashed or stretched fashion.

Use Whole Page

The Use Whole Page Control (off by default) will allow you to position part or all of your image upon the non-printing border area of the printer's page. Normally, these areas are protected, and all of your image will be printed. However, sometimes you may want to print a full page image that was scanned at the same dpi as the printer with Printer's Native Resolution, so clipping will occur. Almost all printers have some non-printable border area. ScanShop takes account of these non-printable areas; they are programmed for every printer supported.

Center X and Center Y

These controls will position the image so that it is perfectly centered on the page when it is printed. Their effect is just like dragging the entire image selection box from its center.

Options

Options pops up a dialog which gives you access to the extended imaging features of your printer. To activate an option, click on the applicable button box. Please refer to another section, "Scanner and Printer Specific Features" on page 59 for more information about your printer's extended features.

Appendix A:
Scanner and Printer Specific Features

Bell & Howell Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **Copiscan 4000 series**
- **Copiscan 3338A, 6338, etc. (all models) with RSC-11 or 21**
- **Copiscan 8000 series**
- **(500 FB - see Ricoh Aficio IS-01)**
- **(1000 FB - see Ricoh IS-420)**
- **(1500 FB - see Ricoh IS-430)**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.

To operate ScanShop with your Bell & Howell scanner, a remote SCSI controller is required.
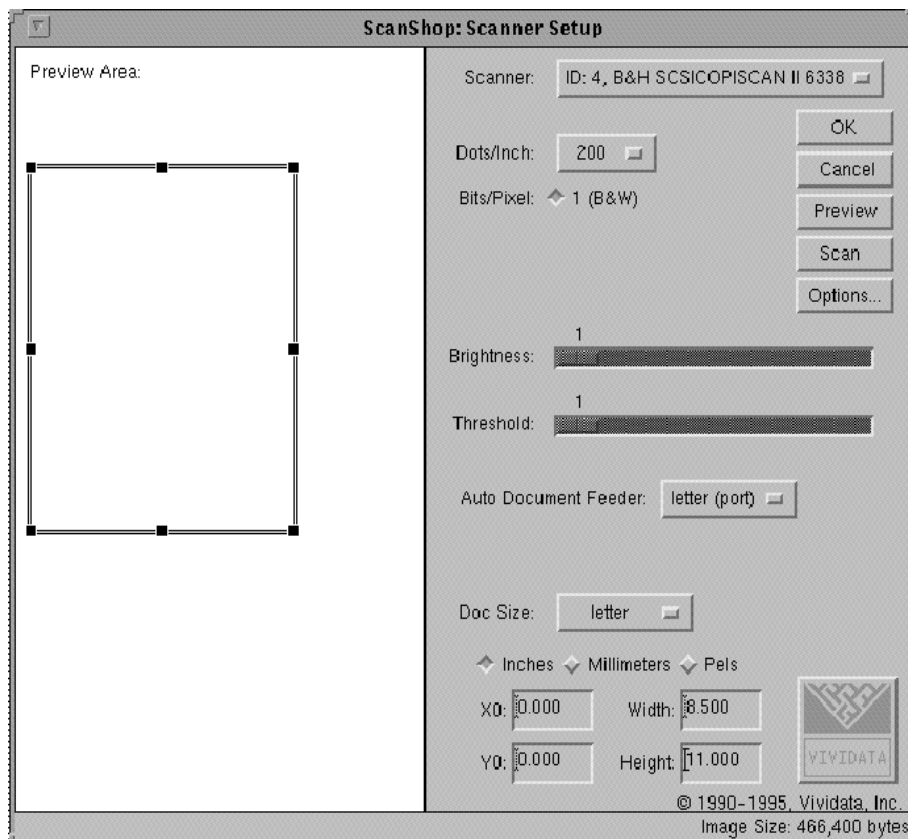

Figure 0-1 Bell & Howell Scanner

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are typically available: 200, 240, 300, and "other...".

Bits Per Pixel

Bell & Howell scanners scan at 1 bit/pixel for black and white. Current scanner/controller models do not support gray scale or color scanning.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Threshold

The threshold slider bar allows you to select the level, below which all pixels are set to black, and above which all pixels are set to white. Moving the slider bar setting to the right increases this threshold level.

Auto Document Feeder

If you try to scan with the ADF selected but have no paper inserted in the ADF, an error message will appear at the bottom of your image display window. The Preview function is disabled when the scanner is in ADF mode.

Certain pre-defined document sizes are supported by the ADF when it is installed:

- letter (port and land)
- legal (port)
- 11" x 17"
- A5 (port and land)
- A4 (port and land)
- A3 (port)
- B5 (port and land)
- B4 (port)

"port" is short for portrait mode, which orients the paper with the narrower side on top. Portrait is the default setting.

"land" is short for landscape mode, which orients the paper with the wider side on top.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

- letter
- letter (land)
- legal
- 11" x 17"
- B5
- B5 (land)
- B4
- A5
- A5 (land)
- A4
- A4 (land)
- A3

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

SCANNER SETUP OPTIONS
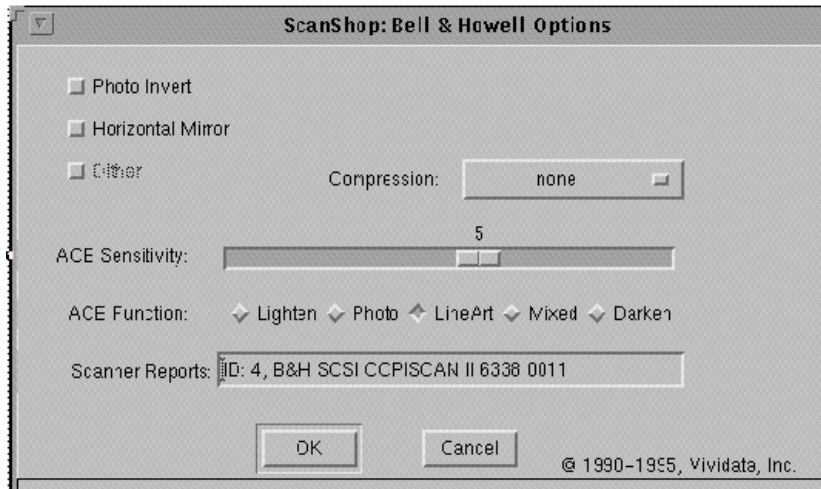
This window provides access to scanner-specific settings.

Figure 0-2 Bell & Howell Settings

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Horizontal Mirror

This option allows you to do a scan which mirrors the image over a vertical axis down the center of the image, thus reversing the image left-to-right. Note that in portrait mode, this axis cuts through the narrower sides, while in landscape mode, it cuts through the wider sides.

Dithering

Selecting Dithering can help make a black-and-white scan represent gray images. It does this by varying the size of clusters of black pixels. When viewed at arm's length, the dots blur, and the resulting image appears to have gray tones.

Compression

When built-in compression hardware is present, this control allows you to select the type of compression that will be recorded in the image's Settings file, for use when scanning directly to a file. Note that images scanned to a displayed window will not be compressed.

ACE Sensitivity & ACE Function

These controls allow selection of Advanced Contrast Enhancement functions to improve image contrast. Available choices are: lighten, photo, line art, mixed, and darken.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Canon Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **CJ-10 with IPU-SS (scan and print)**
- **CLC-10 with IPU-SS (scan and print)**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.
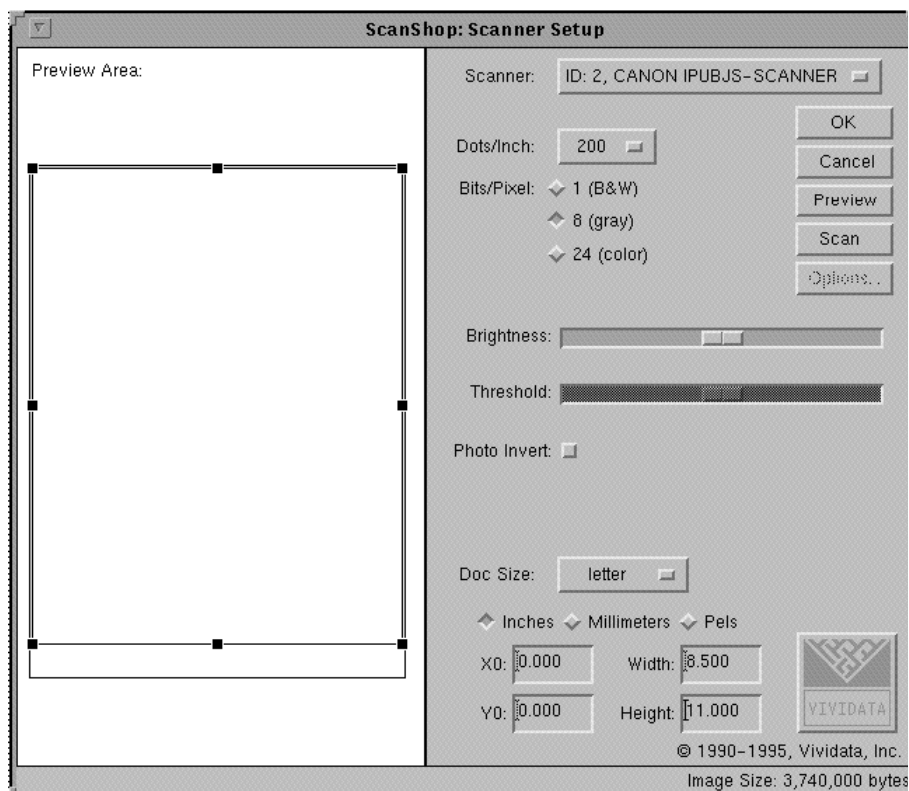
Figure 0-3 Canon Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are typically available: 50, 72, 75, 80, 90, 100, 120, 144, 150, 160, 180, 200, 240, 300, 320, 360, 400, and "other...". (One bit/pixel has only 400 dpi available.)

Bits Per Pixel

Three levels of bits per pixel are offered: 1 bit/pixel for black and white, 8bits/pixel for gray scale, and 24 bits/pixel for color.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Threshold

The threshold slider bar allows you to select the level, below which all pixels are set to black, and above which all pixels are set to white. Moving the slider bar setting to the right increases this threshold level.

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

*   letter

*   A5

*   A5 (land)

*   A4

*   B5

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

Note: No SCANNER SETUP OPTIONS are available with the CJ-10.

CJ-10 PRINT CONTROLS

The ScanShop Print Controls window provides controls for the position, orientation, geometry, and general treatment of the image from ScanShop's main window. ScanShop must have an image loaded before you will be able to bring up the Print Controls window.

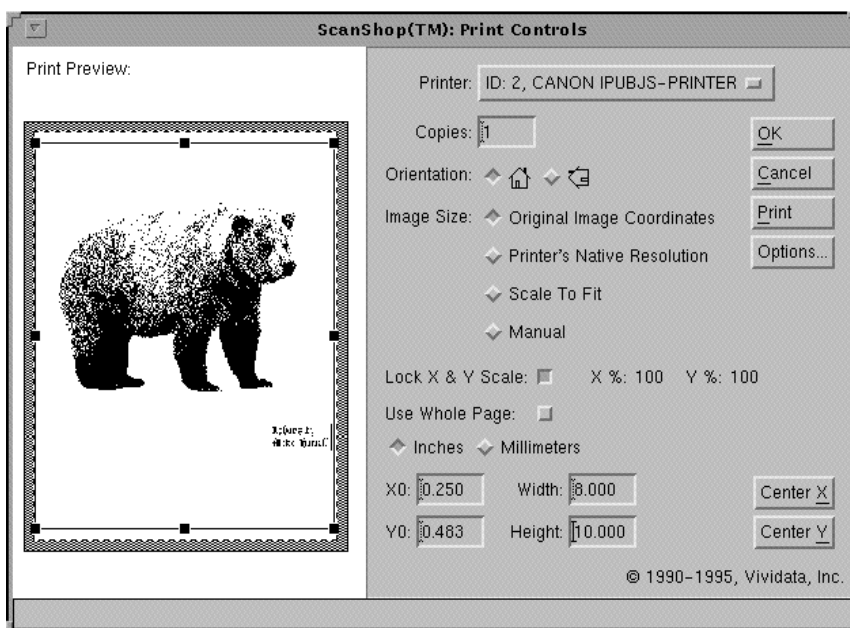*Figure 0-4 Canon Print Controls*

Printer Selection

The Printer menu shows the printers that are available. If you don't have any printers available, then this fact will be indicated. The last item on this list is always "show all devices".

Copies

The Copies control allows you to specify the number of copies that will be printed when you click on the Print button.

Orientation

The Orientation control allows you to specify whether your image will be printed with portrait (default) or landscape orientation. The icons used to represent these two orientations are the house standing up (portrait) and the house turned 90 degrees counter-clockwise (landscape).

Image Size

The Image Size control is one of the most powerful controls in the ScanShop printing software.

- Original Image Coordinates

  Select this to scale your image according to the information about its size from when it was read from an image file or scanned. Not all image files save DPI (dots per inch) dimensional information. In such cases, a default of 72 DPI is assumed (unless overridden by the "pdpi=n" command line parameter).

- Printer's Native Resolution

  Select this option if you want to guarantee that every pixel in the original source image will be printed as one pixel in the output. This action will occur regardless of any differences in the source image's and printer's DPI, so the size of the printed image may not be the same as that of the scanned original.

- Scale To Fit

  This is useful when you want the image to fit exactly within the full printable area of the selected printer. One result of this process is that images with different sizes will be printed with different magnification or reduction ratios to make them fit.

- Manual

  This will be the selection indicated if you manually drag the resize handles of the image icon on the left side of the Print Controls window, or if you enter values in the numeric fields. The units for entered values can be selected as Inches or Millimeters.

Lock X & Y Scale

This check box control (on by default) will keep your manual scaling applied equally to the height and width of your image when it is selected. If you uncheck it, then your manual scalings will not necessarily be symmetric. In other words, your printed image may look squashed or stretched.

Use Whole Page

This control (off by default) will allow you to position part or all of your image upon the non-printing border area of the printer's page. Normally, these areas are protected, and no part of the image may be placed within them.

However, sometimes you may want to print a full page image that was scanned at the same DPI as the printer (for example, with Printer's Native Resolution selected for Image Size). Turning on the Use Whole Page option allows you to position the image over the non-printing border area. Note that clipping will occur.

Almost all printers have some non-printable border area, and ScanShop takes this area into account for each printer supported.

X0, Y0, Width, Height

The print size may also be set manually, either by dragging a rectangle in the print preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches or Millimeters.

Center X and Center Y

These controls will position the image so that it is centered on the page, either horizontally or vertically, when it is printed. Their effect is just like clicking on the center of the image selection box and dragging it until it has been centered in the appropriate direction.

PRINT CONTROLS OPTIONS

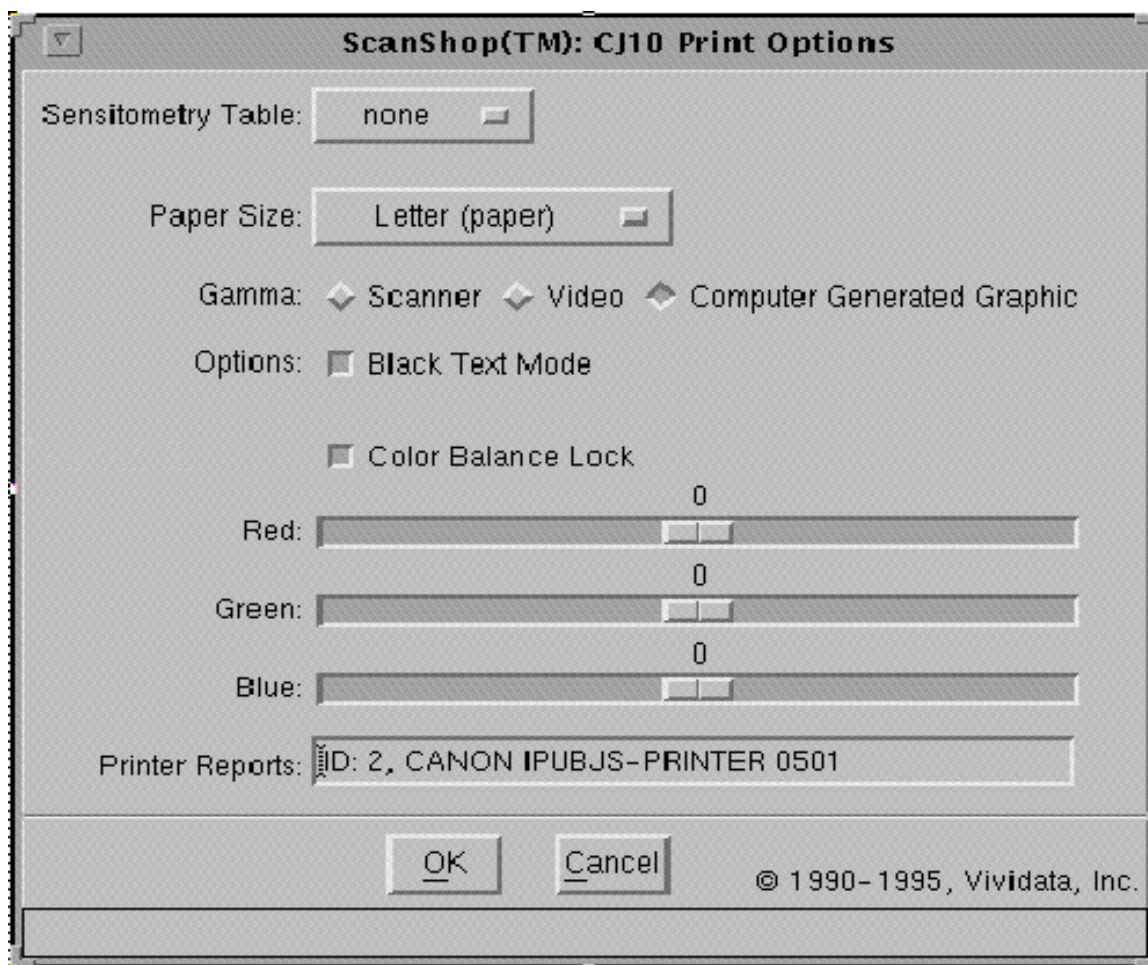This window provides access to printer-specific settings.

Figure 0-5 Canon Print Options

Sensitometry Table

This menu lets you select a "treatment" of your image as it goes to the output medium such as CIO Paper, etc. Your printer's configuration may be

automatically sensed, so that the treatment choices available in this menu will depend on the printer selected and its output media.

Paper Size

Different paper sizes or sources may be selected through this menu. The following standard sizes are typically offered:

- letter (paper)
- letter (transparency)
- A4 (paper)
- A4 (transparency)

Gamma

The Gamma control activates image altering functions within the printer that are provided to compensate for characteristics of certain image sources. The following source selections are available: scanner, video, and computer-generated graphic.

Black Text Mode

Enabling this control enhances the printing of text and line art when it is being printed simultaneously with color images. Characters and lines will appear closer to black.

Brightness or Color Balance Lock (RGB)

These are general brightness controls for affecting the saturation or tone of an image. Experiment with these controls and with the Gamma and Sensitometry controls to attain the best results.

Printer Reports

This is a small text display area that shows information about the printer you are using. Information here will include ROM version information and other information that particular printer models report about themselves.

Epson Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **Action scanner II, ES-300C, ES-300GS, ES-600C, ES-800C, ES-1000C, ES-1200C, ES-8000**

- **GT-1000, GT-300, GT-4000, GT-5000, GT-5500, GT-6000, GT-6400, GT-6500, GT-8000, GT-8500, GT-9000, GT-9500, GT-12000**

- **Expression 636, Expression 836XL, Expression 800C**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.
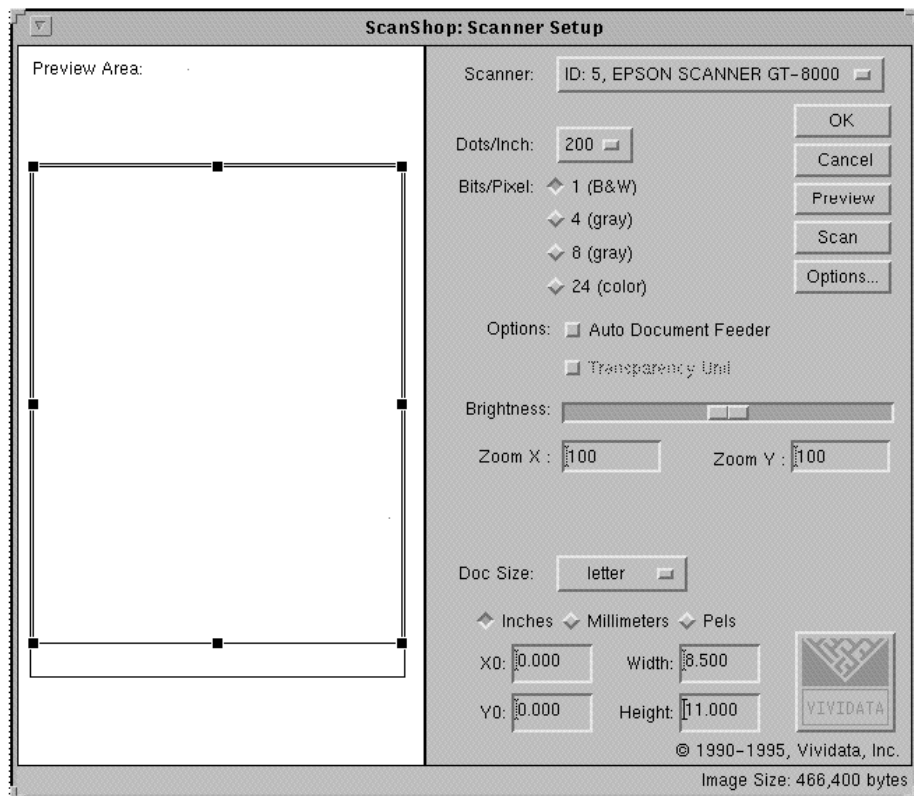
Scanner Selection

Figure 0-6 Epson Scanners

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are typically available: 50, 60, 72, 75, 80, 90, 100, 120, 133, 144, 150, 160, 175, 180, 200, 216, 240, 300, 320, 360, 400, 480, 600, and 800.

Bits Per Pixel

Four levels of bits per pixel are offered: 1 bit/pixel for black and white, 4bits/pixel for gray scale, 8bits/pixel for gray scale, and 24 bits/pixel for color.

Auto Document Feeder

If the ADF is installed, its checkbox will appear "solid." When available, clicking on this checkbox alternately enables and disables use of the ADF for scans.

If you try to scan with the ADF selected but have no paper inserted in the ADF, an error message will appear at the bottom of your image display window. The Preview function is also disabled when the scanner is in ADF mode.

Transparency Unit

Clicking on this checkbox, if it is available, selects scanning using the transparency unit. This will allow you to scan from a transparency.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Zoom X, Zoom Y

Entering percentage values in these controls lets you change the magnification of the scanned image, while preserving the DPI value. For example, choosing a value of 200% along a particular direction will cause twice as many pixels to be used to represent the same length, so that at a constant DPI, that image will be twice as long in that direction.

The zoom can be set from 50% to 200% in 1% increments.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

*   letter

*   A5

*   A5 (land)

- A4

- B5

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

SCANNER SETUP OPTIONS

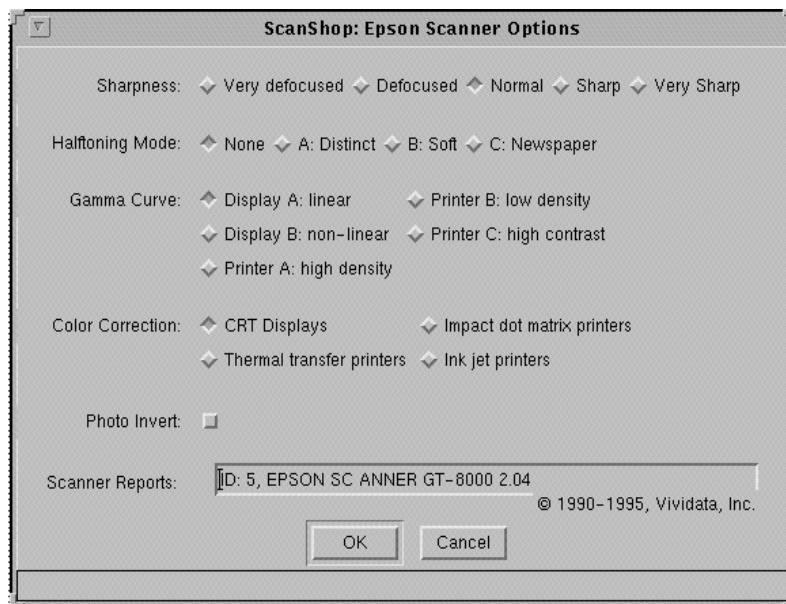This window provides access to scanner-specific settings.

Figure 0-7 Epson Scanner Options

Sharpness

Five levels of sharpness are available on Epson scanners. Select the desired degree of sharpness by clicking on the corresponding control.

Halftoning Mode

When scanning in 1 bit/pixel-color and 2 bit/pixel-color data format, continuous tone images cannot be properly expressed. Halftoning processes the data to simulate continuous tones. Halftoning is a variation of dithering in which patterns of dots are used to give the impression of gray. Most dithering methods use a fixed pattern of dots. The Epson halftoning mode uses a proprietary method which produces better results.

- Mode A: Distinct

    This is the standard mode which creates a hard, distinct tone.

- Mode B: Soft

    This mode converts the image into a softer tone. It is suited for images that contain large areas of similar tones.

- Mode C: Newspaper

    This mode represents the image in a way similar to the screening method commonly used for newspaper photographs. The gradations of tone are represented by clusters of different numbers of dots.

Gamma Curve

Gamma Curve adjusts the light intensity scale between the original image and output image so that when the image is reproduced on some devices, the tones in the reproduced image may be closer to those of the original image.

- Display A: Linear

    The output data is proportional to the original image. This setting is suitable for most types of computer displays which can display images in the 1 bit/pixel-color format or up to 8 or 16 colors. This mode is also suitable for images without continuous tones, such as line art.

- Display B: Non-Linear

    This setting is suitable for analog-input CRT displays which can display images with multiple levels of tones of more than 1 bit/pixel-color.

- Printer A: High Density

  This setting is suitable for high density printers, such as 24 dot matrix printers and page printers. With this function applied, the image is converted into a light image as it is scanned to compensate for the higher (darker) density of such printers. The same image will look faint when viewed on a CRT display.

- Printer B: Low Density

  This setting is suitable for low density printers, such as 8 dot (9 pin) printers, page printers, and ink jet printers. As it is scanned, the image is converted into a slightly lighter image to compensate for the lower density of such printers. This setting is lighter than Printer Output A. The image will look slightly faint when viewed on a CRT display.

- Printer C: High Contrast

  This setting is suitable for the high contrast printing of images that contain both photos and text. This setting gives higher contrast and more definition to the darker areas, like characters and lines, than either Printer Output A or B, while parts with graphic images are given gamma correction for printing. Both the darker and lighter parts of the images are accentuated by this method.

Color Correction

Color Correction processes the color data of the image so that the data is better suited to the characteristics of the color output device. With the color correction function, reproduction of the colors of the image data comes closer to the colors in the original images.

- CRT Displays

  This setting adjusts colors for the characteristics of color CRT displays.

- Thermal transfer printers

  This setting compensates for the characteristics of thermal transfer printers.

- Impact dot matrix printers

  This setting compensates for the characteristics of color impact dot matrix printers.

- Ink jet printers

This setting compensates for the characteristics of ink jet printers.

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Fuji Pictrography 3000 and 4000

PRINT CONTROLS

The ScanShop Print Controls window provides controls for the position, orientation, geometry, and general treatment of the image from ScanShop's main window. ScanShop must have an image loaded before you will be able to bring up the Print Controls window.
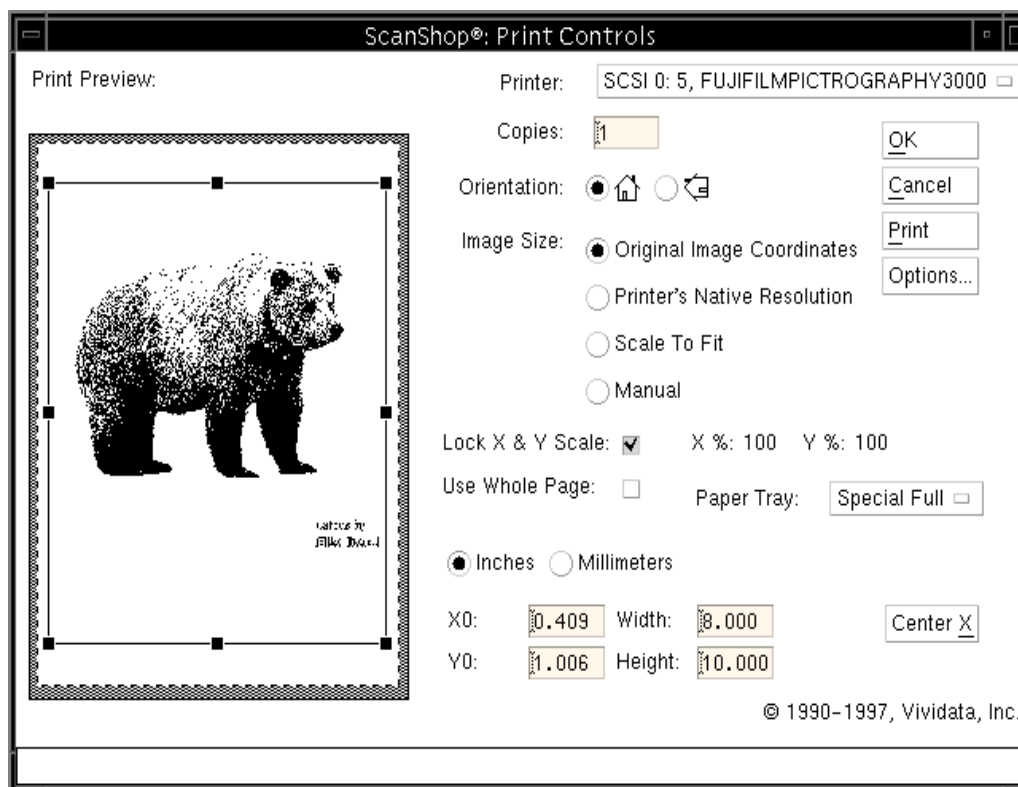

Figure 0-8 Pictrography 3000 Print Controls

Printer Selection

The Printer menu shows the printers that are available. If you don't have any printers available, then this fact will be indicated. The last item on this list is always "show all devices".

Copies

The Copies control allows you to specify the number of copies that will be printed when you click on the Print button.

Orientation

The Orientation control allows you to specify whether your image will be printed with portrait (default) or landscape orientation. The icons used to represent these two orientations are the house standing up (portrait) and the house turned 90 degrees counter-clockwise (landscape).

Image Size

The Image Size control is one of the most powerful controls in the ScanShop printing software.

- Original Image Coordinates

  Select this to scale your image according to the information about its size from when it was read from an image file or scanned. Not all image files save DPI (dots per inch) dimensional information. In such cases, a default of 72 DPI is assumed (unless overridden by the "pdpi=n" command line parameter).

- Printer's Native Resolution

  Select this option if you want to guarantee that every pixel in the original source image will be printed as one pixel in the output. This action will occur regardless of any differences in the source image's and printer's DPI, so the size of the printed image may not be the same as that of the scanned original.

- Scale To Fit

  This is useful when you want the image to fit exactly within the full printable area of the selected printer. One result of this process is that images with different sizes will be printed with different magnification or reduction ratios to make them fit.

- Manual

  This will be the selection indicated if you manually drag the resize handles of the image icon on the left side of the Print Controls window, or if you enter values in the numeric fields. The units for entered values can be selected as Inches or Millimeters.

Lock X & Y Scale

This check box control (on by default) will keep your manual scaling applied equally to the height and width of your image when it is selected. If you uncheck it, then your manual scalings will not necessarily be symmetric. In other words, your image may look squashed or stretched.

Use Whole Page

This control (off by default) will allow you to position part or all of your image upon the non-printing border area of the printer's page. Normally, these areas are protected, and no part of the image may be placed within them.

However, sometimes you may want to print a full page image that was scanned at the same DPI as the printer (for example, with Printer's Native Resolution selected for Image Size). Turning on the Use Whole Page option allows you to position the image over the non-printing border area. Note that clipping will occur.

Almost all printers have some non-printable border area, and ScanShop takes this area into account for each printer supported.

Paper Tray

This control allows you to select between different paper sizes available. In particular, you will be able to select between using a full sheet of paper and a half sheet of paper.

X0, Y0, Width, Height

The print size may also be set manually, either by dragging a rectangle in the print preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches or Millimeters.

Center X and Center Y

These controls will position the image so that it is centered on the page, either horizontally or vertically, when it is printed. Their effect is just like clicking on the center of the image selection box and dragging it until it has been centered in the appropriate direction.

PRINT CONTROLS OPTIONS

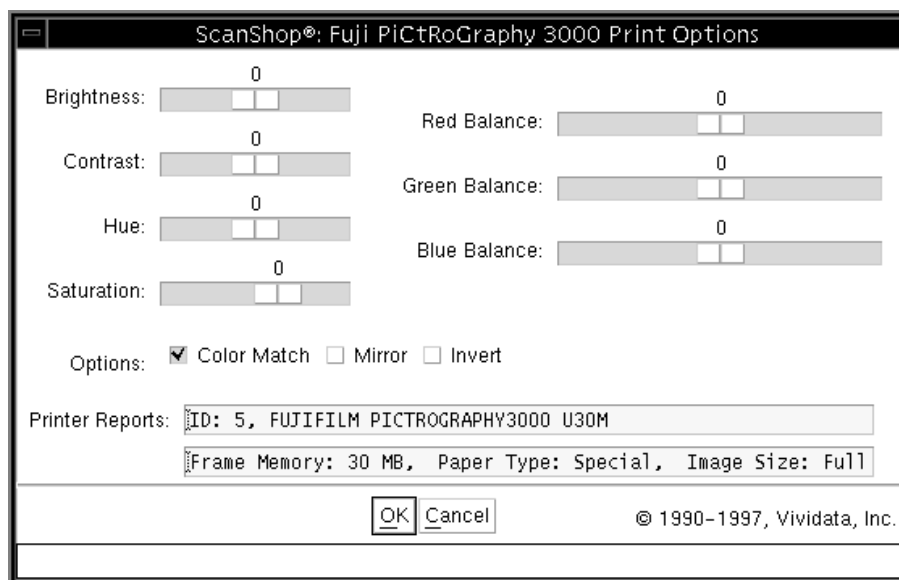This window provides access to printer-specific settings.

Figure 0-9 Pictrography 3000 Print Options

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Contrast

The contrast slider bar varies the contrast of the image. Sliding the slider to the right increases contrast.

Hue

The hue slider bar varies the hue of the image. (PG-3000 only)

Saturation

The saturation slider bar varies the saturation or density of the image. Sliding the slider to the right increases saturation. (PG-3000 only)

Red, Green, and Blue Balance

The balance slider bars vary the color balance of the image. Each slider allows you to adjust a specific color channel.

Color Match

This option allows you to use the printer's Color Match function.

Gamma

This option allows you to select one of the printer's Gamma function values (PG-4000 only).

Fill Black

When checked, this option fills the border regions with black. This option does not work with all paper sizes (PG-4000 only).

Border

This option allows you to select the width of the image border. This option does not work with all paper sizes (PG-4000 only).

Mirror

This option allows you to do a scan which mirrors the image over a vertical axis down the center of the image, thus reversing the image left-to-right. Note that in portrait mode, this axis cuts through the narrower sides, while in landscape mode, it cuts through the wider sides.

Invert

This option allows you to print the negative of the image.

Printer Reports

This is a small text display area that shows information about the printer you are using. Information here will include ROM version information and other information that particular printer models report about themselves.

Fujitsu Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **ScanPartner 10**
- **ScanPartner 10C**
- **ScanPartner M3096G+/m**
- **ScanPartner M3096Gx**
- **ScanPartner M3097G (Rev 2 firmware adss grayscale support)**
- **ScanPartner M3099G Duplex scanner**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.

For operation with ScanShop, your Fujitsu scanner will need to have the memory option installed.
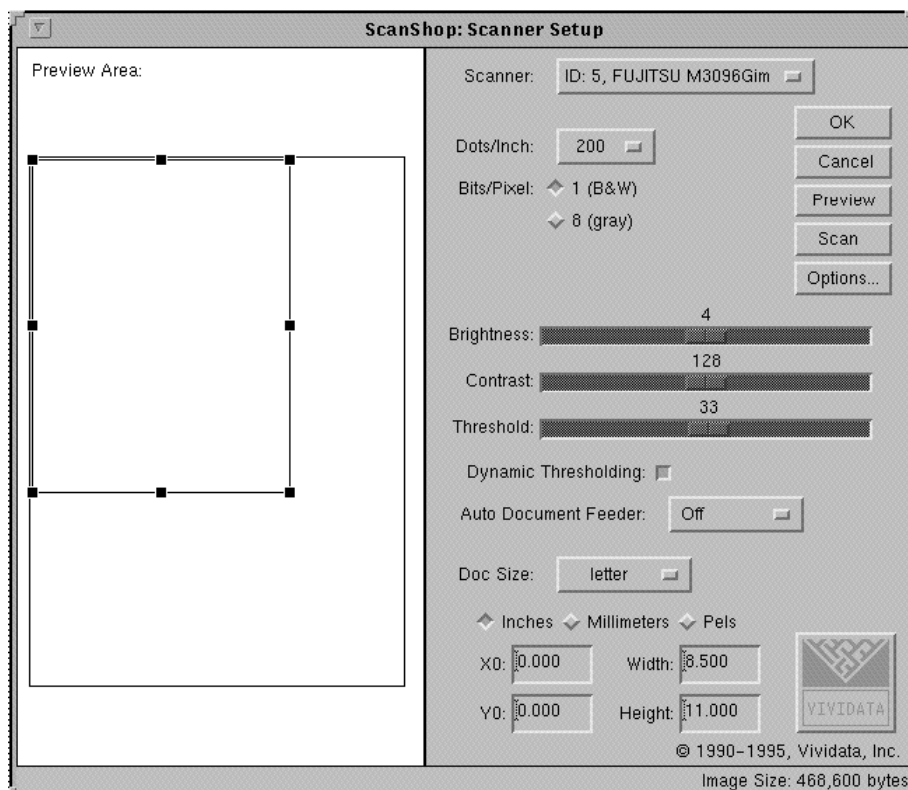
Figure 0-10 Fujitsu Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are normally available: 200, 240, 300, and 400. Additional selections are available if the optional Image Processing Circuit (IPC)

Board is installed. For more information, please see the "Image Processing Circuit Board" section below.

Bits Per Pixel

Three levels of bits per pixel are offered: 1 bit/pixel for black and white and 8bits/pixel for gray scale.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Contrast

The contrast slider bar allows you to vary the image contrast. Sliding the bar to the right increases the contrast.

Threshold

The Fujitsu scanner supports two kinds of threshold controls: regular (or static) threshold and dynamic threshold. Static threshold corresponds to the most generally used kind of thresholding, where at an established level, all lighter pixels become white and all darker pixels become black. The slider bar allows you to select 64 threshold levels.

The Dynamic Thresholding feature is available only when the optional Image Processing Circuit board is installed. If the board is not installed, the Dynamic Thresholding checkbox is disabled. (Please see the "Image Processing Circuit Board" section below.)

Dynamic Thresholding uses a variable threshold level. It is especially useful in the scanning of signatures which consist of variable line weights. Dynamic Thresholding automatically adjusts the threshold to extract lightly stroked handwritten characters. It does this by analyzing the reflected light from the page. If there is a small variation in the signal, indicating a faint line, the scanner reduces the threshold setting to a point where it can distinguish between the faint line and the background.

Auto Document Feeder

If you try to scan with the ADF selected but have no paper inserted in the ADF, an error message will appear at the bottom of your image display window. The Preview function is disabled when the scanner is in ADF mode.

Certain pre-defined document sizes are supported by the ADF when it is installed:

- letter (port and land)
- legal (port)
- 11" x 17"
- A5 (port and land)
- A4 (port and land)
- A3 (port)
- B5 (port and land)
- B4 (port)

"port" is short for portrait mode, which orients the paper with the narrower side on top. Portrait is the default setting.

"land" is short for landscape mode, which orients the paper with the wider side on top.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

- letter
- letter (land)
- legal
- 11" x 17"
- B5
- B5 (land)
- B4
- A5

- A5 (land)

- A4

- A4 (land)

- A3

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").
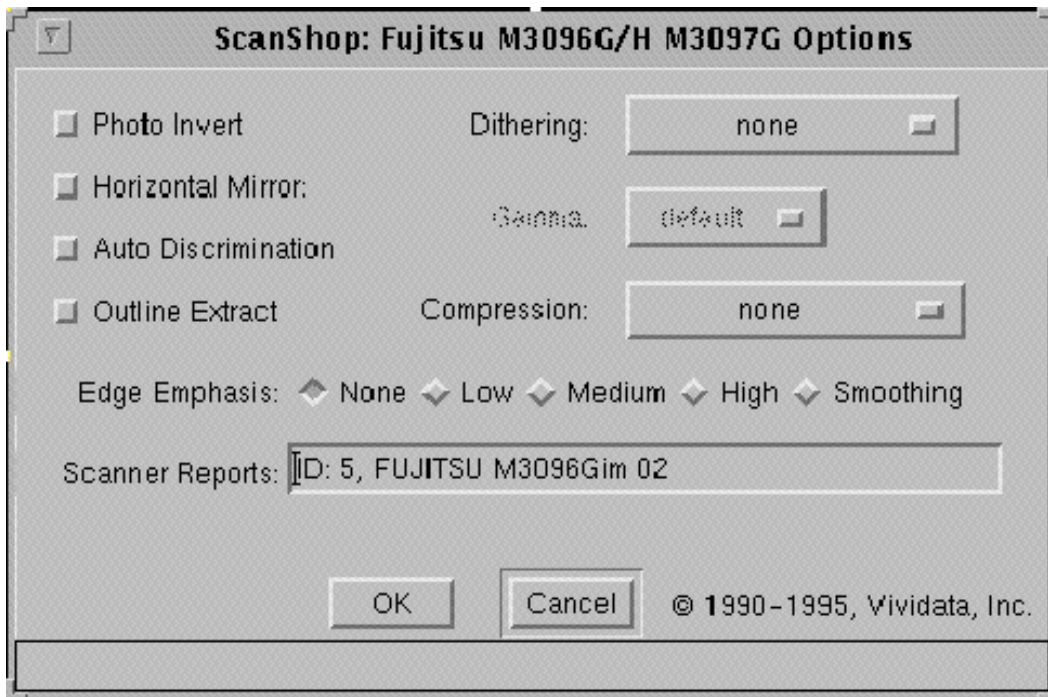
SCANNER SETUP OPTIONS

This window provides access to scanner-specific settings.

Figure 0-11 Fujitsu Scanner Options

Dithering

Dithering can help make a black-and-white scan represent gray images. It does this by varying the size of clusters of black pixels. When viewed at arm's length, the dots blur, and the resulting image appears to have gray tones.

The list of available dither patterns depends on the particular scanner selected. For this scanner, the following are available:

• None

• Photographs 1

• Photographs 2

• Characters/Photos 1

- Characters/Photos 2

Gamma

Through the Gamma control, you can adjust the light intensity scale between the original image and output image so that when the image is reproduced on some devices, the tones in the reproduced image may be closer to those in the original image.

Compression

When built-in compression hardware is present, this control allows you to select the type of compression that will be recorded in the image's Settings file, for use when scanning directly to a file. Note that images scanned to a displayed window will not be compressed.

Image Processing Circuit Board

The optional Image Processing Circuit Board offers a number of image processing features for the Fujitsu M3096G/H and M3097G scanners. The board is shipped separately from the scanner and should be installed by a Fujitsu-authorized and trained service technician.

The IPC board offers the following image enhancement options:

- Photo Invert
- Horizontal Mirror
- Automatic Discrimination
- Outline Extraction
- Edge Emphasis
- Dynamic Thresholding (see "Threshold" above)

If the board is not installed, these options will be disabled.

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Horizontal Mirror

This option allows you to do a scan which mirrors the image over a vertical axis down the center of the image, thus reversing the image left-to-right. Note that in portrait mode, this axis cuts through the narrower sides, while in landscape mode, it cuts through the wider sides.

Automatic Discrimination

The automatic discrimination feature is useful when scanning documents containing both photos and text. This feature allows the scanner to switch between text and photo mode in one pass. Line mode scanning is binary and photo mode is dithered halftone. The end result is that line art and photos are both processed for their best appearance. The automatic discrimination feature analyzes the reflected light from the page to determine if it is black and white (very high or low signal) or gray scale (varying signal). When high signal fluctuations are detected, the scanner switches to line mode for black and white. When fluctuations are gradual, the scanner switches to halftone mode for scanning a photograph.

Outline Extraction

The Outline feature saves the outline of a black and white image. The scanner looks for the boundaries between black and white and connects them to form outlines of the objects in the image.

Edge Emphasis

The edge emphasis feature enhances the edges of the image to make them appear sharp and crisp. It can also be set to "smoothing" to help eliminate spot noise and voids.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Hewlett-Packard Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **ScanJet IIC**
- **ScanJet IICX**
- **ScanJet 3C**
- **ScanJet 4C**
- **ScanJet 2P**
- **ScanJet 3P**
- **ScanJet 4P**
- **ScanJet 5P (without "green button" support)**
- **ScanJet 6100C**
- **ScanJet 6200C**
- **ScanJet 6250C**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.
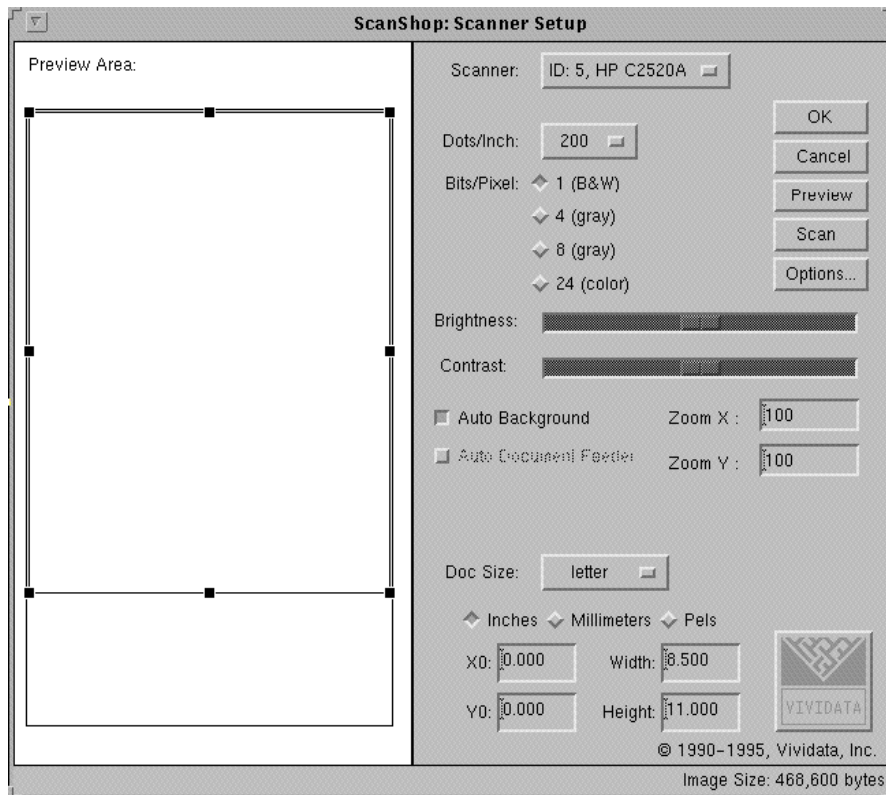
Figure 0-12 Hewlett-Packard Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are typically available: 50, 60, 72, 75, 80, 90, 100, 120, 144, 150, 160, 180, 200, 240, 300, 320, 360, 400, 480, 600, 800, and "other...".

Bits Per Pixel

Four levels of bits per pixel are offered: 1 bit/pixel for black and white, 4or 8 bits/pixel for gray scale, and 24 bits/pixel for color.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Contrast

The contrast slider bar allows you to vary the image contrast. Sliding it to the right increases the contrast.

Auto Background

Auto Background is an image enhancement feature only available on Hewlett-Packard scanners. This function adjusts the variations in the background to even out the foreground.

Auto Document Feeder

If the ADF is installed, its checkbox will appear "solid." When available, clicking on this checkbox alternately enables and disables use of the ADF for scans.

If you try to scan with the ADF selected but have no paper inserted in the ADF, an error message will appear at the bottom of your image display window. The Preview function is disabled when the scanner is in ADF mode.

Zoom X, Zoom Y

Entering percentage values in these controls lets you change the magnification of the scanned image, while preserving the DPI value. For example, choosing a value of 200% along a particular direction will cause twice as many pixels to be used to represent the same length, so that at a constant DPI, that image will be twice as long in that direction.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

- letter

- legal

- B5

- A5

- A5 (land)

- A4

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").
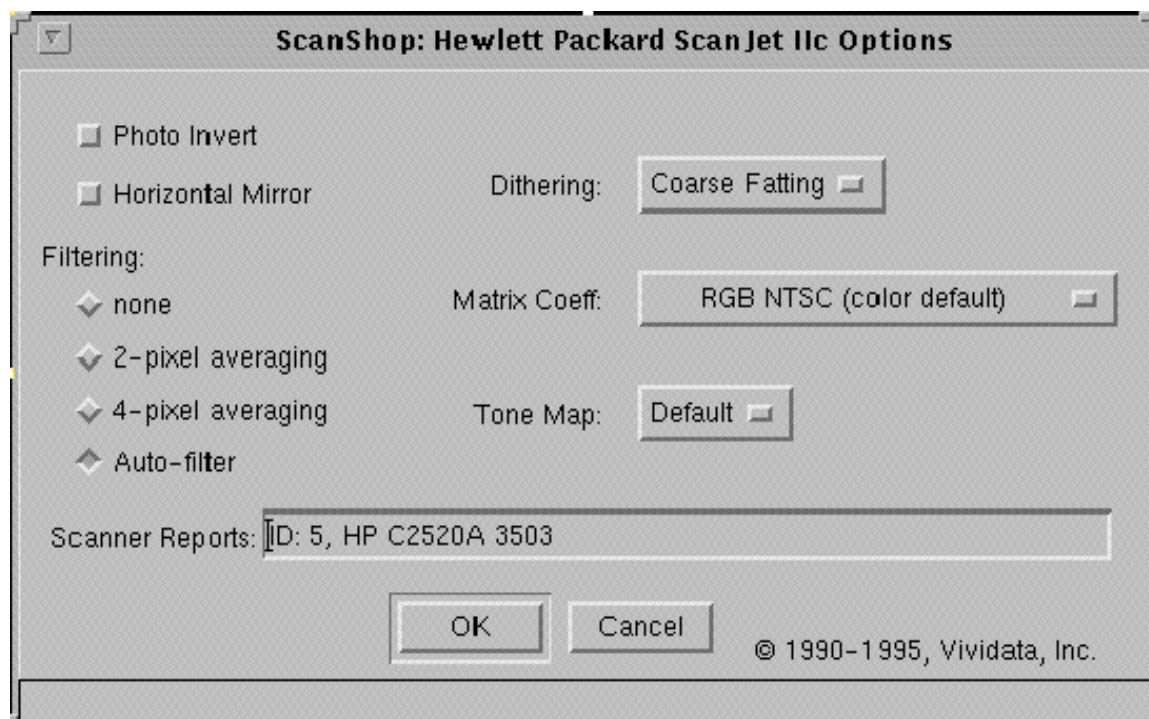
SCANNER SETUP OPTIONS

This window provides access to scanner-specific settings.

Figure 0-13 Hewlett-Packard Scanner Options

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Horizontal Mirror

This option allows you to do a scan which mirrors the image over a vertical axis down the center of the image, thus reversing the image left-to-right. Note that in portrait mode, this axis cuts through the narrower sides, while in landscape mode, it cuts through the wider sides.

Filtering

Image filtering has the effect of smoothing the image, as local clusters of pixels are averaged.

Dithering

Dithering can help make a black-and-white scan represent gray images. It does this by varying the size of clusters of black pixels. When viewed at arm's length, the dots blur, and the resulting image appears to have gray tones.

The list of available dither patterns depends on the particular scanner selected. For this scanner, the following are available:

- none
- Coarse Fatting
- Fine Fatting
- Bayer Dither
- Vertical Line

The larger the pattern area, the more gray levels that can be represented, but with a grainier result. Dither patterns can also be downloaded to achieve special effects.

Matrix Coefficient

Selection of matrix coefficients lets you slightly alter the colors of scanned images, so that the colors of the image on the final output device correspond more closely to those of the original scanned image.

Tone Map

Setting of the tone map is an image enhancement feature of the Hewlett-Packard scanners.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Kodak Printers

SUPPORTED MODELS INCLUDE:

- **XL-7700 (GPIB or SCSI)**
- **XLT-7720 (GPIB or SCSI)**
- **XLS-8600 (PS, SCSI, ethernet TCP/IP Raster)**
- **DS-8650 (PS, SCSI, ethernet TCP/IP Raster)**

KODAK PRINT CONTROLS

The ScanShop Print Controls window provides controls for the position, orientation, geometry, and general treatment of the image from ScanShop's main window. ScanShop must have an image loaded before you will be able to bring up the Print Controls window.

For GPIB operation, ScanShop requires that a National Instruments GPIB adapter be installed with its GPIB drivers.
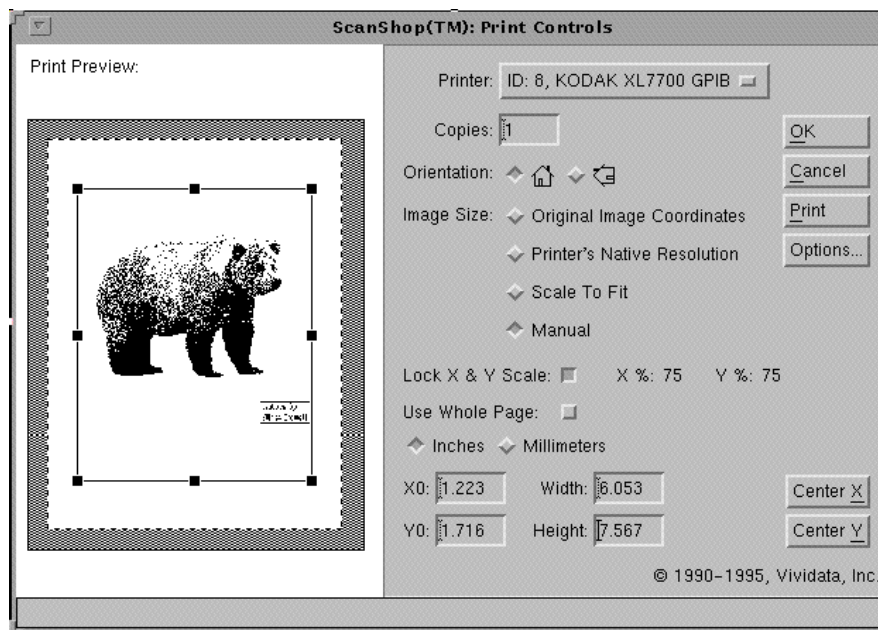
Figure 0-14 Kodak XL7700 Print Controls

Printer Selection

The Printer menu shows the printers that are available. If you don't have any printers available, then this fact will be indicated. The last item on this list is always "show all devices".

Copies

The Copies control allows you to specify the number of copies that will be printed when you click on the Print button.

Orientation

The Orientation control allows you to specify whether your image will be printed with portrait (default) or landscape orientation. The icons used to represent these

two orientations are the house standing up (portrait) and the house turned 90 degrees counter-clockwise (landscape).

Image Size

The Image Size control is one of the most powerful controls in the ScanShop printing software.

- Original Image Coordinates

  Select this to scale your image according to the information about its size from when it was read from an image file or scanned. Not all image files save DPI (dots per inch) dimensional information. In such cases, a default of 72 DPI is assumed (unless overridden by the "pdpi=n" command line parameter).

- Printer's Native Resolution

  Select this option if you want to guarantee that every pixel in the original source image will be printed as one pixel in the output. This action will occur regardless of any differences in the source image's and printer's DPI, so the size of the printed image may not be the same as that of the scanned original.

- Scale To Fit

  This is useful when you want the image to fit exactly within the full printable area of the selected printer. One result of this process is that images with different sizes will be printed with different magnification or reduction ratios to make them fit.

- Manual

  This will be the selection indicated if you manually drag the resize handles of the image icon on the left side of the Print Controls window, or if you enter values in the numeric fields. The units for entered values can be selected as Inches or Millimeters.

Lock X & Y Scale

This check box control (on by default) will keep your manual scaling applied equally to the height and width of your image when it is selected. If you uncheck it, then your manual scalings will not necessarily be symmetric. In other words, your image may look squashed or stretched.

Use Whole Page

This control (off by default) will allow you to position part or all of your image upon the non-printing border area of the printer's page. Normally, these areas are protected, and no part of the image may be placed within them.

However, sometimes you may want to print a full page image that was scanned at the same DPI as the printer (for example, with Printer's Native Resolution selected for Image Size). Turning on the Use Whole Page option allows you to position the image over the non-printing border area. Note that clipping will occur.

Almost all printers have some non-printable border area, and ScanShop takes this area into account for each printer supported.

X0, Y0, Width, Height

The print size may also be set manually, either by dragging a rectangle in the print preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches or Millimeters.

Center X and Center Y

These controls will position the image so that it is centered on the page, either horizontally or vertically, when it is printed. Their effect is just like clicking on the center of the image selection box and dragging it until it has been centered in the appropriate direction.

KODAK PRINT OPTIONS

This window provides access to printer-specific settings.
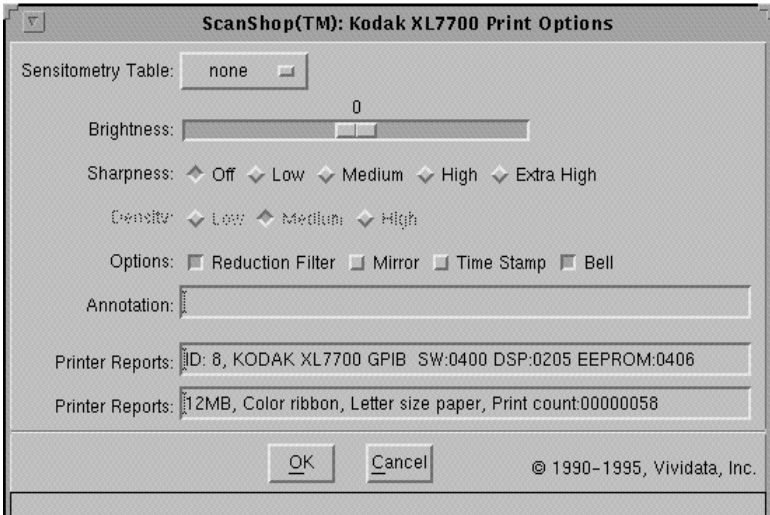
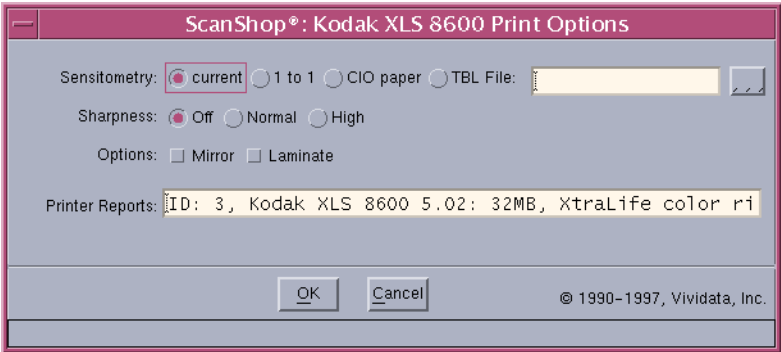*Figure 0-15 Kodak XL-7700 and XL-7720 Print Options*

Figure 0-16 Kodak XL 8600 Print Options

Sensitometry Table

These radio buttons allow you to choose from the current sensitometry table in the printer, 1 to 1 ("linear"), CIO paper, or upload a new table to the printer. Your printer's configuration will be automatically sensed, so that the treatment choices available in this menu will depend on the printer selected and its output media.

In the XLS-8600 and 8650 Options GUI, a Kodak TableMaker file, also referred to as a .TBL or PTF file can be downloaded to the printer. See also the ptf_file command line option (which applies to the 77XX and the 86XX models).

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right. (77XX models only)

Sharpness

Five levels of sharpness are available in the 77XX models, three levels in the 86XX models. Select the desired degree of sharpness by clicking on the corresponding control.

Density

This control lets you choose the desired printer output density. (77XX models only)

Reduction Filter

The reduction filter, when enabled, acts as a low-pass filter, slightly blurring the image, so that if the image is printed at a lower resolution than it was scanned at, there is less of a chance that very fine lines will be lost. (77XX models only)

Mirror

This option allows you to do a scan which mirrors the image over a vertical axis down the center of the image, thus reversing the image left-to-right. Note that in portrait mode, this axis cuts through the narrower sides, while in landscape mode, it cuts through the wider sides.

Time Stamp

Selecting this control places a time stamp on the image when it is printed.(77XX models only)

Bell

Selecting this control causes an end-of-print tone to sound at the completion of printing.(77XX models only)

Annotation

Text in this control will be printed at the border of the image.(77XX models only)

Printer Reports

This is a small text display area that shows information about the printer you are using. Information here will include ROM version information and other information that particular printer models report about themselves.

Laminate (86xx models only)

Laminate - If you are using the XtraLife color ribbon, this option will enable lamination to extend the life of the print.

Microtek Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **ScanMaker 600ZS**
- **ScanMaker II**
- **ScanMaker IIXe**
- **ScanMaker IIHR**
- **ScanMaker III**
- **ScanMaker E3**
- **ScanMaker E6**
- **AGFA Arcus II**
- **AGFA DuoScan**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.
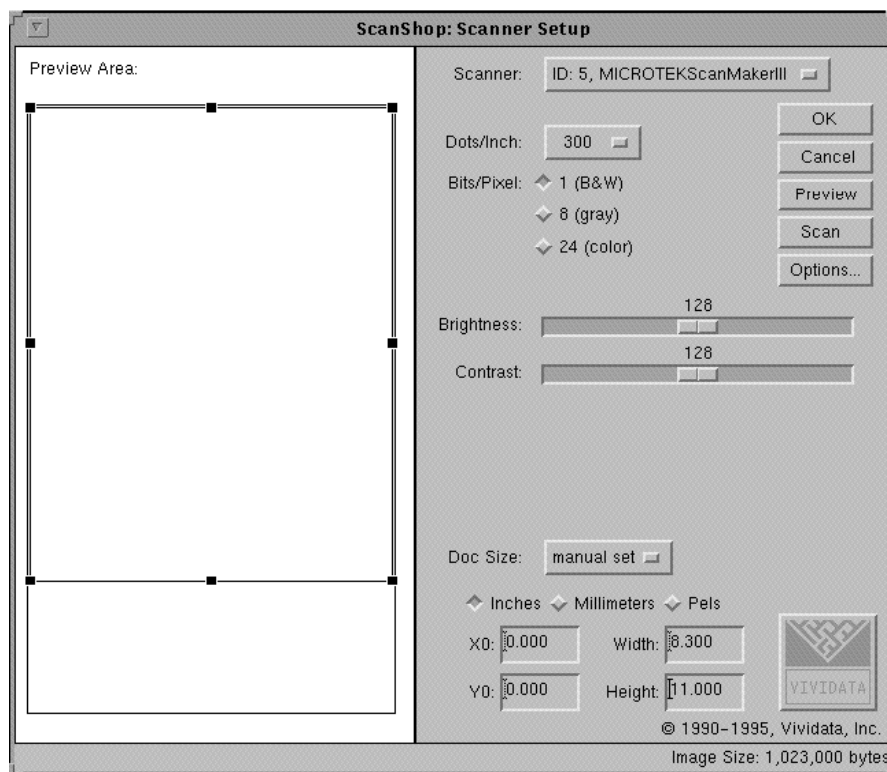
Figure 0-17 Microtek Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are typically available: 60, 90, 120, 150, 180, 240, 300, 450, 600, 900, 1200, and "other...".

Bits Per Pixel

Three levels of bits per pixel are offered: 1 bit/pixel for black and white, 8 bits/pixel for gray scale, and 24 bits/pixel for color.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Contrast

The contrast slider bar allows you to vary the image contrast. Sliding it to the right increases the contrast.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

- B5

- A5

- A5 (land)

- A4

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

SCANNER SETUP OPTIONS

This window provides access to scanner-specific settings.
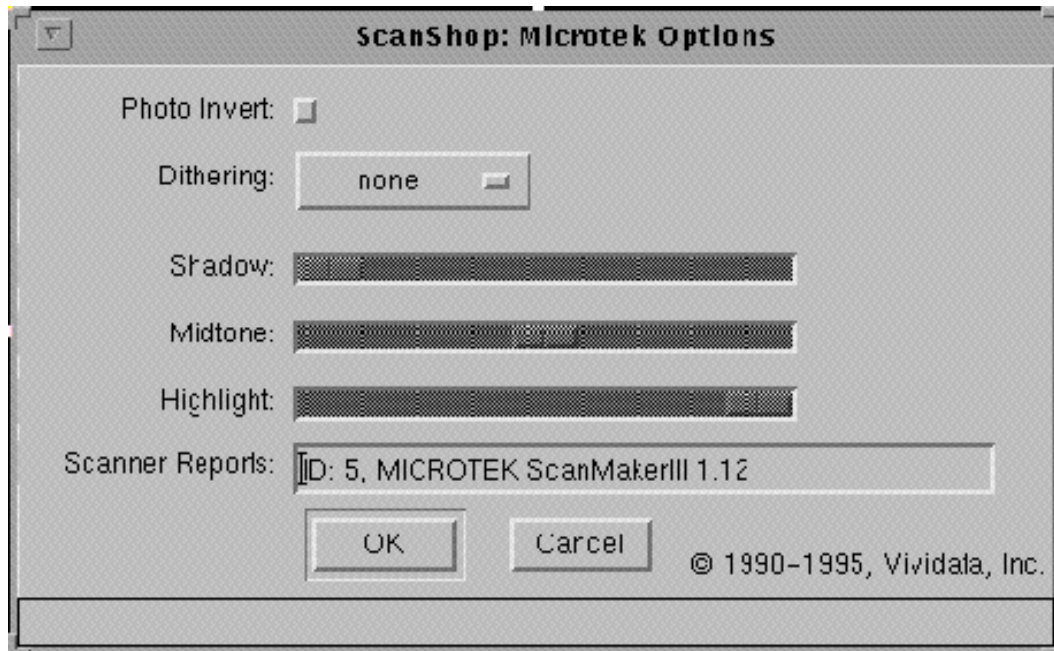
Figure 0-18 Microtek Scanners Options

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Dithering

Dithering can help make a black-and-white scan represent gray images. It does this by varying the size of clusters of black pixels. When viewed at arm's length, the dots blur, and the resulting image appears to have gray tones.

The list of available dither patterns depends on the particular scanner selected. For this scanner, the following are available:

- none
- 8x8 53 grays

- 8x8 65 grays

- 8x8 33 grays

- 6x6 29 grays

- 5x5 26 grays

- 4x4 17 grays

- 3x3 10 grays

- 2x2 5 grays

The larger the pattern area, the more gray levels that can be represented, but with a grainier result. Dither patterns can also be downloaded to achieve special effects.

Shadow, Midtone, and Highlight

These sliders can be used to enhance the dynamic range of the images you scan. If you have an image with lots of midtones that you would like to differentiate, these controls can help. They allow you to specify the resolution of gray tones at particular intensity levels, which in turn affects the overall brightness of the image.

Shadow adjusts the level of the darkest dark for scanning. Below this value, all pixels will be black.

Accordingly, Highlight allows you to bring down the top end of the range into the midtones.

Midtone lets you set the intensity level corresponding to medium gray.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Panasonic Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **KVSS-50**
- **KVSS-55**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.
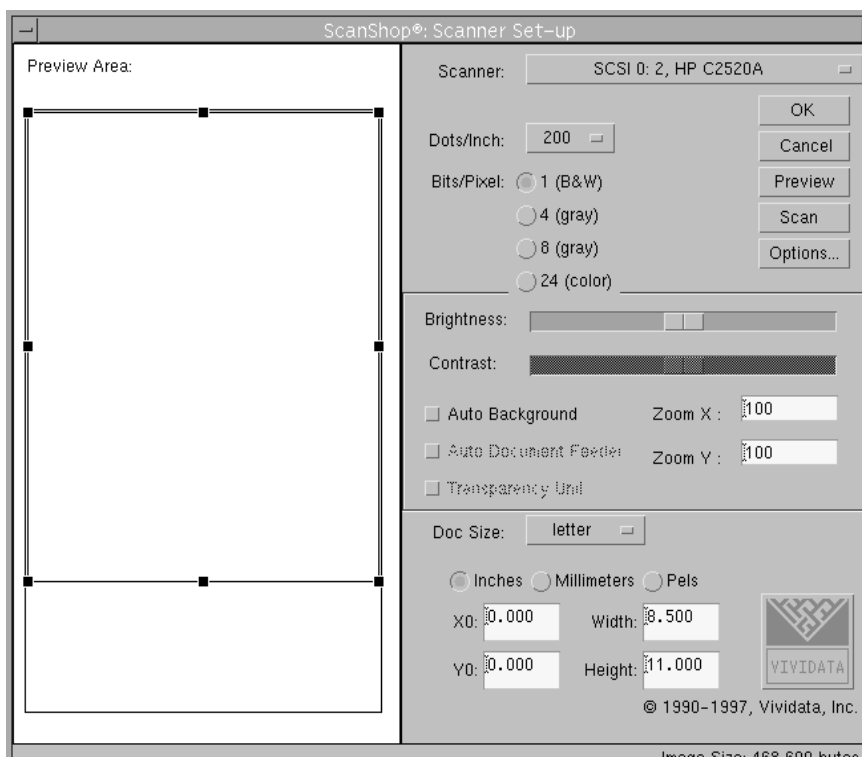

Figure 0-19 Panasonic Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are normally available: 200, 240, 300, and 400.

Bits Per Pixel

Three levels of bits per pixel are offered: 1 bit/pixel for black and white and 8 bits/pixel for gray scale.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Threshold

The threshold slider bar allows you to select the level, below which all pixels are set to black, and above which all pixels are set to white. Moving the slider bar setting to the right increases this threshold level.

Auto Document Feeder

If you try to scan with the ADF selected but have no paper inserted in the ADF, an error message will appear at the bottom of your image display window. The Preview function is disabled when the scanner is in ADF mode.

Certain pre-defined document sizes are supported by the ADF when it is installed:

- letter (port and land)
- legal (port)
- 11" x 17"
- A5 (port and land)
- A4 (port and land)
- A3 (port)

- B5 (port and land)
- B4 (port)

"port" is short for portrait mode, which orients the paper with the narrower side on top. Portrait is the default setting.

"land" is short for landscape mode, which orients the paper with the wider side on top.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

- letter
- letter (land)
- legal
- 11" x 17"
- B5
- B5 (land)
- B4
- A5
- A5 (land)
- A4
- A4 (land)
- A3

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

SCANNER SETUP OPTIONS

This window provides access to scanner-specific settings.

Figure 0-20 Panasonic Scanner Options

Dithering

Dithering can help make a black-and-white scan represent gray images. It does this by varying the size of clusters of black pixels. When viewed at arm's length, the dots blur, and the resulting image appears to have gray tones.

The list of available dither patterns depends on the particular scanner selected. For this scanner, the following are available:

• None

• Photographs 1

• Photographs 2

• Characters/Photos 1

• Characters/Photos 2

Gamma

Through the Gamma control, you can adjust the light intensity scale between the original image and output image so that when the image is reproduced on some devices, the tones in the reproduced image may be closer to those in the original image.

Compression

When built-in compression hardware is present, this control allows you to select the type of compression that will be recorded in the image's Settings file, for use when scanning directly to a file. Note that images scanned to a displayed window will not be compressed.

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Horizontal Mirror

This option allows you to do a scan which mirrors the image over a vertical axis down the center of the image, thus reversing the image left-to-right. Note that in portrait mode, this axis cuts through the narrower sides, while in landscape mode, it cuts through the wider sides.

Edge Emphasis

The edge emphasis feature enhances the edges of the image to make them appear sharp and crisp. It can also be set to "smoothing" to help eliminate spot noise and voids.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Ricoh Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **Aficio IS-01**
- **FS-2**
- **IS-50**
- **IS-60**
- **IS-410**
- **IS-420**
- **IS-430**
- **Digital Equipment Corp. MD-410**
- **IBM 2456**
- **Bell & Howell 500 FB, 1000 FB, and 1500 FB**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.
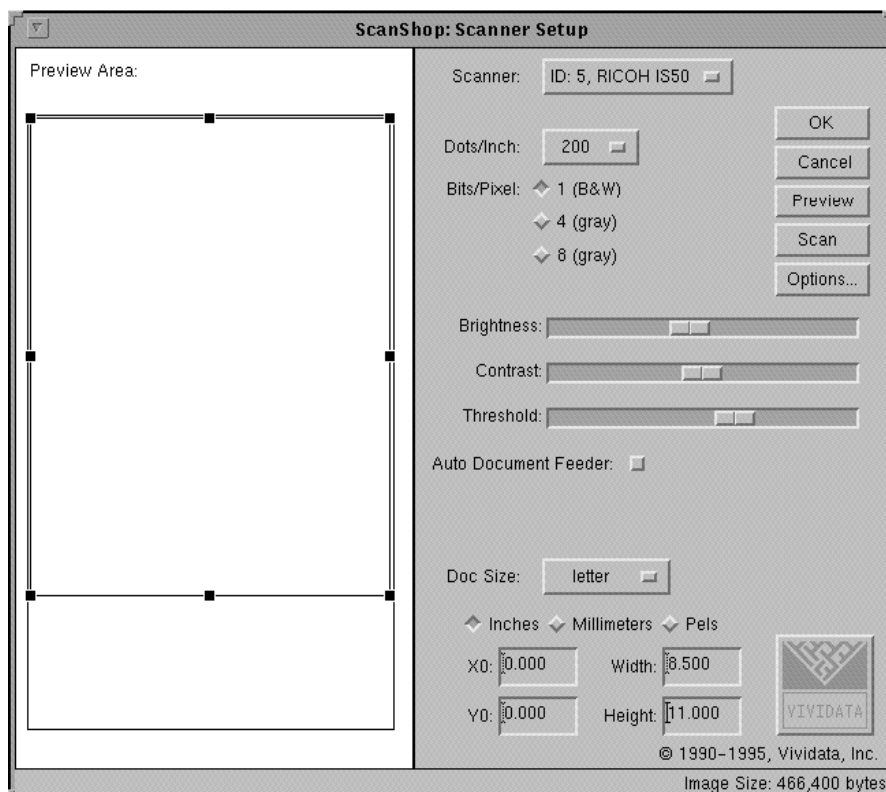
Figure 0-21 Ricoh Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you have no scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

The following choices of dpi are typically available: 50, 60, 72, 75, 80, 90, 100, 120, 144, 150, 160, 180, 200, 240, 300, 320, 360, 400, 480, 600, 800, 1200, and "other...".

Bits Per Pixel

Three levels of bits per pixel are offered: 1 bit/pixel for black and white, and 4 or 8bits/pixel for gray scale.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Contrast

The contrast slider bar allows you to vary the image contrast. Sliding it to the right increases the contrast.

Threshold

The threshold slider bar allows you to select the level, below which all pixels are set to black, and above which all pixels are set to white. Moving the slider bar setting to the right increases this threshold level.

Auto Document Feeder

The Automatic Document Feeder (ADF) is an option on IS50 and IS60 scanners (part number DF-60) and comes standard on the model IS410. The ADF checkbox is located under the Threshold slider bar. If your scanner has an ADF, it will be selectable.

If you try to scan with the ADF selected but do not have paper inserted in the ADF, an error message will appear at the bottom of your image display window. The Preview function is disabled when the scanner is in ADF mode.

Document Size

All three Ricoh scanners allow manual input of document size, but the pre-defined document sizes are different for the IS50/IS60 and the IS410. The abbreviated menu button for the IS50 and IS60 displays are as follows:

- letter
- legal
- A5
- A5 (land)

- A4

- B5

The abbreviated menu button for the IS410 displays:

- letter

- letter (land)

- legal

- 11" x 17"

- A5

- A5 (land)

- A4

- A4 (land)

- A3

- B5

- B5 (land)

- B4

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

SCANNER SETUP OPTIONS

This window provides access to scanner-specific settings.
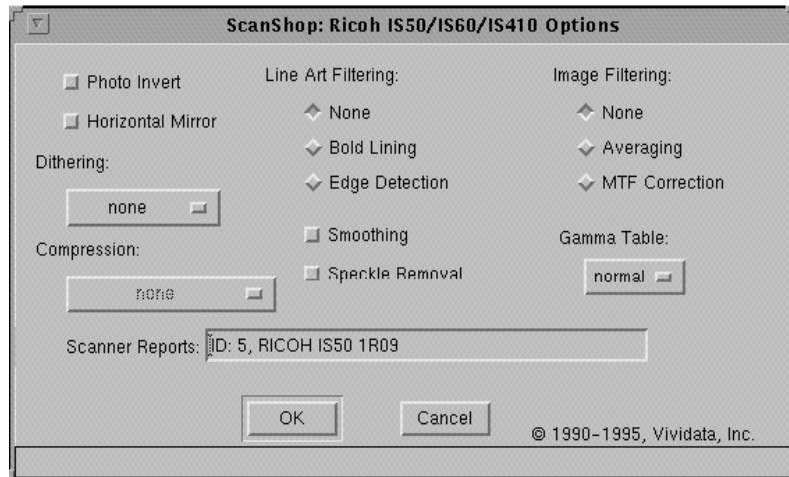
Figure 0-22 Ricoh Scanner Options

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Horizontal Mirror

This option allows you to do a scan which mirrors the image over a vertical axis down the center of the image, thus reversing the image left-to-right. Note that in portrait mode, this axis cuts through the narrower sides, while in landscape mode, it cuts through the wider sides.

Dithering

Dithering can help make a black-and-white scan represent gray images. It does this by varying the size of clusters of black pixels. When viewed at arm's length, the dots blur, and the resulting image appears to have gray tones.

The larger the pattern area, the more gray levels that can be represented, but with a grainier result. Dither patterns can also be downloaded to achieve special effects.

Compression

When built-in compression hardware is present, this control allows you to select the type of compression that will be recorded in the image's Settings file, for use when scanning directly to a file. Note that images scanned to a displayed window will not be compressed.

Line Art Filtering

All of the line art filtering options work only with 1 bit/pixel images (line art, black and white images).

- None

    No filtering will be done.

- Bold Lining

    This removes single black dots, extracts edges, thickens edges.

- Edge Detection

    This looks for the boundaries between black and white and connects them to form outlines of the objects in the image.

Smoothing

Smoothing softens the transition between black and white by creating the illusion of gray.

Speckle Removal

Speckle removal eliminates extraneous dots in the image.

Image Filtering

- None

    This will disable filtering of images.

- Averaging

    Choosing this option averages 2x2 neighborhoods of pixels together to achieve a "smoothing" effect.

- MTF

This is a filter for boosting fine lines, and thus is effective when black and white line art is scanned.

Ricoh Gamma Tables

You can download a desired gamma table or you can choose one of the following:

• Normal

 This option gives output closest to the original document.

• Smooth

 This creates an overall loose, soft feeling.

• Sharp

 This option emphasizes the border line between black and white.

• Linear

 With this option, scanned pixel values are passed through the gamma unit unchanged.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Sharp Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **JX-320s (SCSI)**
- **JX-330 (SCSI)**
- **JX-600 (GPIB and SCSI)**
- **JX-610 (SCSI)**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.

For GPIB operation, ScanShop requires that a National Instruments GPIB adapter be installed with its GPIB drivers.
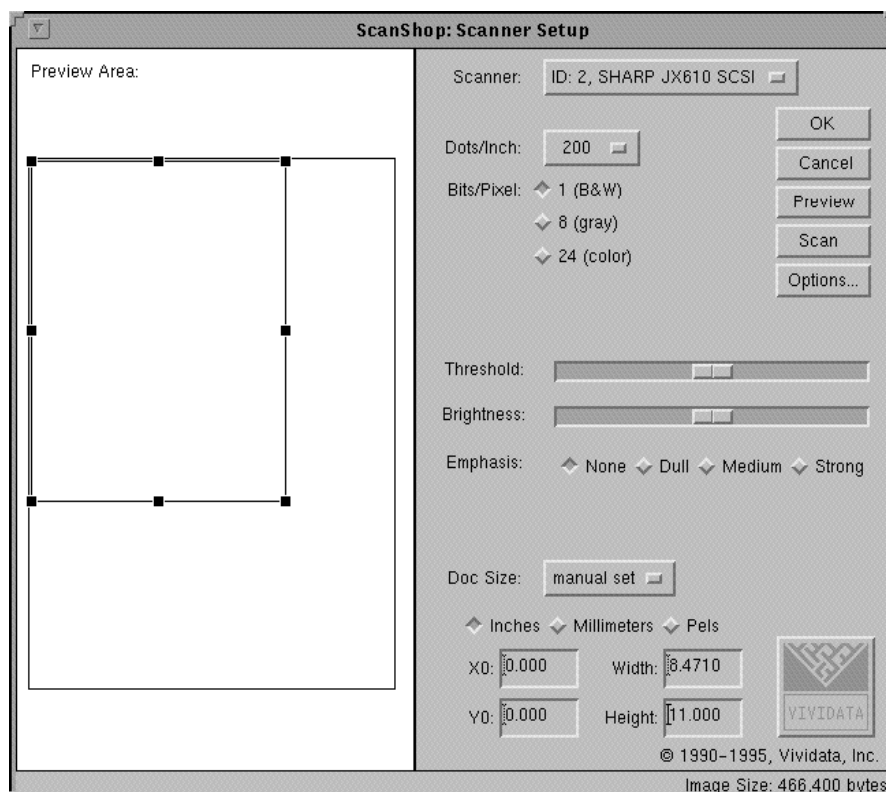
Figure 0-23 Sharp Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".
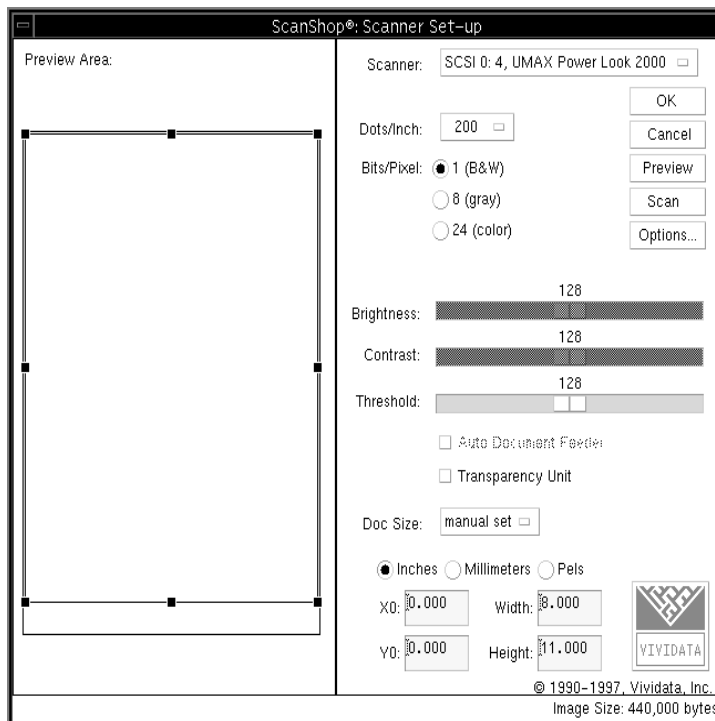
Dots Per Inch

The following choices of dpi are typically available: 50, 60, 72, 75, 80, 90, 100, 120, 144, 150, 160, 180, 200, 240, 300, 320, 360, 400, 480, 600, 800, 1200, and "other...".

Bits Per Pixel

Three levels of bits per pixel are offered: 1 bit/pixel for black and white, 8bits/pixel for gray scale, and 24 bits/pixel for color.

Transparency Illumination Unit

The Sharp JX-600 and JX-610 scanners ship with a transparency illumination unit. Use of this unit is supported in ScanShop automatically when it is installed and connected each time when you start ScanShop.

Threshold

The threshold slider bar allows you to select the level, below which all pixels are set to black, and above which all pixels are set to white. Moving the slider bar setting to the right increases this threshold level.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Emphasis

The edge emphasis feature enhances the edges of the image to make them appear sharp and crisp. Four degrees of emphasis are available: None, Dull, Medium, and Strong.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered for the JX-600 and JX-610 (the JX-320S and document sizes are a subset of this list):

- letter
- letter (land)
- legal
- 11" x 17"
- B5
- B5 (land)

- B4

- A5

- A5 (land)

- A4

- A4 (land)

- A3

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

SCANNER SETUP OPTIONS

This window provides access to scanner-specific settings.
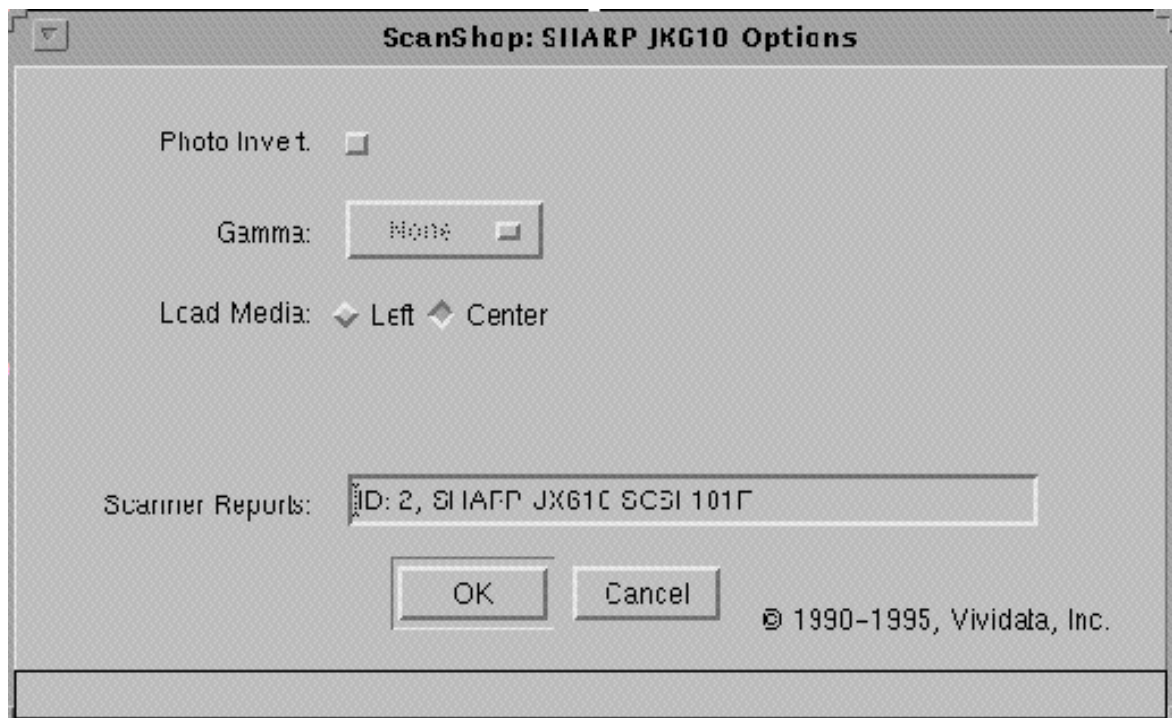
Figure 0-24 Sharp Scanner Options

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Gamma

Through the Gamma control, you can adjust the light intensity scale between the original image and output image so that when the image is reproduced on some devices, the tones in the reproduced image may be closer to those in the original image.

Load Media

Load Media (JX-600 and JX-610) is used to help you position the platen of the scanner when the overhead transparency unit is installed. Select "Left" to slide the platen clear of the transparency unit for loading of your image media. Select "Center" to re-position the platen in the normal position for scanning.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

UMAX Scanners

SCANNER MODELS SUPPORTED INCLUDE:

- **PowerLook 2000**
- **Mirage D-16L**
- **MD 1600**
- **Vista S-12**
- **Super Vista S-12**

SCANNER SETUP

The ScanShop Scanner Setup window provides controls for the scan area, resolution, and other settings. Many of the controls are available for all scanners, while others are model-specific. ScanShop automatically enables the controls which are applicable to your scanner.

Figure 0-25 UMAX Scanners

Scanner Selection

The Scanner menu shows the scanners that are available. If you don't have any scanners available, then this fact will be indicated. The last item on this list is always "show all devices".

Dots Per Inch

Choices of dpi from 50 to 800 are available from the pull-down menu. You can select "other" to specify a higher dpi.

Bits Per Pixel

Three levels of bits per pixel are offered: 1 bit/pixel for black and white, 8bits/pixel for gray scale, and 24 bits/pixel for color.

Brightness

The brightness slider bar varies the brightness of the image, ranging from darkest on the left to lightest on the right.

Contrast

The contrast slider bar allows you to vary the image contrast. Sliding the bar to the right increases the contrast.

Threshold

The threshold slider bar allows you to select the level, below which all pixels are set to black, and above which all pixels are set to white. Moving the slider bar setting to the right increases this threshold level.

Transparency Unit

If you have a transparency unit on your scanner, you can toggle the transparency unit option to turn it on or off.

Document Size

In selecting the size of the area to be scanned, the following standard document sizes are typically offered:

    letter

    letter (land)

    legal

    11" x 17"

    B5

    B5 (land)

    B4

    A5

A5 (land)

A4

A4 (land)

A3

All document sizes are in portrait mode (narrower side on top), unless indicated by a "land" designation.

X0, Y0, Width, Height

The document size may also be set manually, either by dragging a rectangle in the preview area or by entering the settings directly into the X0, Y0, Width, and Height text fields. The setting units may be specified as Inches, Millimeters, or Pixels ("Pels").

SCANNER SETUP OPTIONS

This window provides access to scanner-specific settings.

Figure 0-26 UMAX Scanner Options

Photo Invert

Selecting this control will let you scan the "negative" of your images.

Gamma

Through the Gamma control, you can adjust the light intensity scale between the original image and output image so that when the image is reproduced on some devices, the tones in the reproduced image may be closer to those in the original image.

Scanner Reports

This is a small text display area that shows information about the scanner you are using. Information here will include ROM version information and other information that particular scanner models report about themselves.

Appendix B: Troubleshooting

Overview

This chapter offers some troubleshooting hints as well as brief pointers to maximize ScanShop's operation efficiency.

Getting Help

Read this section of the manual

This section of the manual contains useful information on common problems and troubleshooting. If you do not find an answer please go to our website's support section.

Getting Help On-line

Vividata now has maintains an on-line knowledge base with Questions and Answers to many of the most common problems. It can be found at

`http://www.vividata.com/SupportShop`

Submitting a Question to the Support Department

At our SupportShop Website http://www.vividata.com/SupportShop you will see a link "*Ask the Support Department a Question*". This page will help you to you supply us some important information that we need to help diagnose your problem.

Identifying the Problem

There are several status files and options you can set in PostShop to help you identify the cause of your problem.

Step 1: Verify Licensing is Working

Run lmstat to check if the license manager daemon(s) are running:

`$VV_HOME/bin/lmstat -t`

If you receive a Status **UP** then licensing is working correctly. If you do not, then your first step is to verify a key is installed on your system. The file `$VV_HOME/config/license.dat` is the file that holds the Vividata license keys. It should be an ASCII text file with 644 permissions. If it is not there, please enter your key using the Vividata Installer. If it is there, run

`$VV_HOME/bin/./lmutil lmdiag`

This will check to see if there is any problems with licensing.

Lastly, try running `$VV_HOME/bin/lmgrd` directly, this is the license manager deamon. It should tell you what type of problem it is having. If it can not find the license file, try setting the LM_LICENSE_FILE environment variable as described in "LM_LICENSE_FILE environment variable" on page 146.

Step 2: Verify Connections

Verify that all your cables are connected properly, all equipment is turned on and working properly. If you have one or more SCSI busses, please check that all of your connections are plugged in and operating properly.

Step 3: Check Log Files

Vividata software generates various log files that can be useful for determining the cause of many problems.

vividata.log

When your system reboots, a file called vividata.log is created in the /tmp directory. This file contains information from the license manager used with our products. This log is useful in determining if licensing is starting at boot time correctly.

vvdrv.rc

The vvdrv.rc file located in the /tmp directory will display what SCSI devices our software found at boot and is able to communicate with. Those devices supported by our software will be listed as supported. For more information on devices

listed as *"Not Open"* please see problems and solution section on page page 140. We also include a utility called **vvshowdevs** that will rescan your SCSI bus for devices that may not have been ready or available at boot. This utility is run from the command line and will display its results for you. Another way of forcing a SCSI rescan is to delete the vvdrc.rc file from the /tmp directory.

SCSI Drivers

ScanShop may have installed Vividata's SCSI drivers on your system if your system is not one that provide SCSI drivers in the kernel. The names and installation requirements of SCSI device ports (i.e. "drivers") are system-dependent and are described in the following table**:**

OS/CPU	SCSI Port Names	Installation Requirement
AIX	`/dev/scsi*`	`vv_install`
IRIX	`/dev/scsi/*`	`none`
HP-UX 9.x	`/dev/scsi/*`	`none`
HP-UX 10.x	`/dev/scsi/*`	`vv_install`
OSF/1	`/dev/cam`	`none`
Solaris 2.x	`/dev/vvsc*`	`automatic by Installer`
SunOS 4.x	`/dev/vvsc*`	`vv_install`

- Your SCSI device ports do not have read and write permissions set for all users. Refer to the "SCSI Drivers" section to determine the name of the SCSI drivers on you system, and check the permissions on those files. On some systems, the files are symbolic links; make sure the files they link to also have sufficient read and write permissions.

- You do not have SCSI ports and/or a compatible SCSI driver installed on your system. Refer to the "SCSI Drivers" section to determine the correct installation procedure for your platform. On OSF/1, HP-UX 9.x, and IRIX, the SCSI ports should already exist on your system, so no additional drivers are necessary.

- You do not have read and write permissions set for /tmp or on /tmp/vvdrv.rc. Make sure the permissions on these files are sufficient.

- You have an old vvdrv.rc that could not be deleted. Manually delete /tmp/vvdrv.rc and restart ScanShop.

- You are running an HP-UX 10.10 or 10.20 system. With certain system configurations, ScanShop is unable to communicate with the SCSI bus. Details on particular system configurations that fail are not yet qualified.

- You have a third party SCSI driver on your system that is incompatible with our software. You may need to remove the other SCSI drivers.

- Your scanner (or SCSI printer) has a conflicting SCSI ID with another device on your system.

- Your SCSI chain is not properly terminated. Check to make sure that the ends of the SCSI chain are terminated properly, and the internal termination is set correctly.

- Your SCSI chain is too long. Try to keep the chain as short as possible, and make sure it does not exceed 5 meters.

- If you are running Solaris 2.x, you may not have reconfigured the /devices directory with a "reboot -- -r", "boot -r" from the monitor prompt ("ok") on SPARC platforms, or "b -r" from the secondary OS loader on x86 platforms.

- Your scanner is powered off, not properly connected, or "stuck" in a bad state. Make sure all connections are okay, and power cycle your scanner. You need to restart ScanShop after this.

- You have more than 4 SCSI buses on your system and your scanner is connected to a bus other than 0, 1, 2, or 3. ScanShop only supports up to 4 SCSI buses. Connect the scanner to bus 0, 1, 2, or 3, or reassign the bus number.

Symptom:

The "Scanner Setup" window indicates "No scanners available" even though you have a scanner attached to the system. In the "Show All Devices" window, your scanner is listed, but marked as "supported, not open".

Possible causes and solutions:

- Another application is accessing the scanner (or SCSI printer). Quit any other applications that may be accessing the scanner. You must restart ScanShop again.

- Your scanner may be "stuck" in a bad state. Try power cycling the scanner. You must quit and start ScanShop again.

- Your scanner may be a supported model, but with ROM ID information that is different from the one that ScanShop's scanner driver is looking for. Please contact Vividata technical support for assistance in finding a possible workaround.

- Your scanner is a clone of a supported model (a scanner that claims to be "compatible with so and so"). It is likely that in such clones, the ROM ID information is different from that for which ScanShop's scanner driver was written. In general, vividata does not support scanners that are clones of supported models.

Symptom:

ScanShop gives the error message:

```
"Error opening scanner. Device model is unlicensed."
```

or

```
"Warning: Not licensed for this scanner."
```

Possible causes and solutions:

- You do not have the correct licensing level to use a particular scanner model. You need to obtain a license key that contains the correct licensing level for your scanner.

Symptom:

When scanning from the command line, the output image has missing sections.

Possible causes and solutions:

- Try scanning from the GUI and see if the image is complete. If it is, you may not have enough free RAM on your system to perform a complete scan from the command line. Try to free some RAM by exiting unused applications or rebooting your system.

Symptom:

Your SCSI printer does not show up in the "Print Controls" window.

Possible causes and solutions:

- Please see the symptoms above relating to SCSI scanners for possible problems and solutions, substituting "scanner" for "printer" when appropriate.

Symptom:

Some system printers do not show up in the "Print Controls" window, and you are running Solaris 2.x, HP-UX, or IRIX (System V-style print systems).

Possible causes and solutions:

- The file $VV_HOME/id/postscript.id does not exist or does not have read permission set. Make sure you have read permission set on the file and read and execute permissions set on the $VV_HOME/id directory.

- ScanShop may not have access to your printer interfaces directory (/var/spool/lp/interfaces for IRIX and HP-UX 9.x, /usr/spool/lp/interfaces for HP-UX 10.x, and /etc/lp/interfaces for Solaris 2.x). Make sure the directory has read and execute access, and that all printers in this directory that you want users to access have read and write permissions.

- A printer interface script may not exist for a particular printer. Create a interface script for each printer you want users to access. Refer to your printer administration guide for details on how to do this. Note: Remote printers may not be accessible by this method.

- PostShop printers will not show up if the interface file references an invalid ID file.

Symptom:

Some system printers do not show up in the "Print Controls" window, and you are running OSF/1, SunOS 4.x, or AIX.

Possible causes and solutions:

- The file $VV_HOME/id/postscript.id does not exist or does not have read permission set. Make sure you have read permission set on the file and read and execute permissions set on the $VV_HOME/id directory.

- ScanShop may not have access to your /etc/printcap file (OSF/1, SunOS) or /etc/qconfig file (AIX). Make sure the file has read access.

- On OSF/1 and SunOS systems, PostShop printers will not show up if the /etc/printcap file references an invalid ID file.

- On AIX systems, PostShop printers will not show up if the /etc/qconfig file references an interface script ("backend" file) that references an invalid ID file.

How to Get a License

You must have a valid license before you can print with ScanShop. If you haven't yet received a license key from us, you need to get one. You can get one from either the "Free Demo" section ofVividata's website, by faxing Vividata a License Request Form or by sending e-mail to keys@vividata.com. If you need a form, please download one from www.vividata.com or request one via email, fax or telephone (see contact information at the front of this manual) and we will send one to you. If you are certain that you have a valid license, verify that your licensing is set up correctly (See Appendix C, "License Manager Commands", for license manager information.)

Installing the Keys

To enter your license keys, use the Installer. Please see "Using the Installer" on page 14. Then, try restarting ScanShop.

Patches

It is suggested that the operating system be maintained by installing the most current patches available from the platform vendor, as certain (possibly known) bugs can affect the operation of ScanShop. Check Vividata's release notes and the support areas of our website for mention of any specific known problems which can be fixed with certain patches.

Appendix C: License Manager Commands

Overview

Publicly distributed versions of Vividata products use FLEXlm as the license manager. This section will describe the usage of FLEXlm as it pertains to Vividata products, including determining the lmhostid necessary for license keys to be issued, diagnosing the license keys and license server, and additional configuration information.

FLEXlm Utilities

You will find the various FLEXlm utilities discussed below in the $VV_HOME/bin directory after you have installed a Vividata product containing the VVlicense package. This set of utilities currently includes lmutil and six links to this file: lmdiag, lmdown, lmhostid, lmremove, lmreread, and lmstat. The license daemons, found in the same directory, are lmgrd and vv_d2.

The License Daemon

There are two license daemons required for a FLEXlm server to operate properly. The first daemon is lmgrd, which is the main FLEXlm daemon. The second is vv_d2, a vendor daemon for Vividata products. The user will not need to launch vv_d2; it is launched automatically when lmgrd is launched. When Vividata products are first installed, lmgrd is automatically started, and appropriate files in /etc are modified so that lmgrd is launched when the system boots. If for some reason the license daemon needs to be stopped, the "lmdown" utility (described below) should be used to stop the program gracefully.

LM_LICENSE_FILE environment variable

The LM_LICENSE_FILE environment variable tells Vividata products where to look for the FLEXlm license file. The default location searched is $VV_HOME/config/license.dat, but if for some reason you need to use a different file, set LM_LICENSE_FILE to the full path of the license file. For example, in csh:

```
% setenv LM_LICENSE_FILE <full_path>
```

License File Format

The FLEXlm license file is stored in a user-readable, plain ASCII text format. The following is an example of such a license file:

```
SERVER quint 80782d46
VENDOR vv_d2
FEATURE generic vv_d2 3.20 permanent 1 5DFC16E43C9F
ck=107 \
START=1-jan-2000
```

(Note the backslash '\' after the ck=107 indicates a continuation of the *third* line.) The three fields most pertinent to Vividata products are SERVER, VENDOR, and FEATURE. Together, these three fields form a license key. The following is a description of these fields:

SERVER - contains information about the license server's host name and lmhostid.

VENDOR - contains the name of the vendor-specific license daemon.

FEATURE - contains information about the features enabled in a particular license.

Obtaining your lmhostid

If you have the FLEXlm utilities installed on your system, you can simply run "lmhostid" to determine the lmhostid on your system. If you need the lmhostid prior to installing the software, or if the "lmhostid" utility does not return a valid lmhostid, please see the following table to determine your lmhostid manually.

Table 1: lmhostid derivations

Platform	Source	User command	Example
OSF/1 Digital Unix	ethernet address	netstat -i	080020005532
HP-UX	32-bit hostid	uname -i and convert to hex or prepend with #	778DA450 or #2005771344

Table 1: lmhostid derivations

Platform	Source	User command	Example
Linux	ethernet address	/sbin/ifconfig eth0 and remove colons from HWaddr	00400516E525
AIX	32-bit hostid	uname -m then remove last 2 digits, and use remaining last 8 digits	02765131
IRIX	32-bit hostid	/etc/sysinfo -s and convert to hex, or prepend with #	69064C3C or #1762020412
SunOS and Solaris	32-bit hostif	hostid	170a3472
Windows NT	ethernet address	Programs:Administrative Tools (common): Windows NT Diagnostics:: Network: Transports:Address	Programs:Administrative Tools (common) : Windows NT Diagnostics

Command Reference

lmdiag

NAME

lmdiag – Checks a license file for problems

SYNOPSIS

```
lmdiag [-c license file] [feature]
```

DESCRIPTION

lmdiag checks a license file to see if all features listed in it are valid. This utility is often helpful in determining the cause of licensing errors that are related to the license key itself, as opposed license manager problems (see lmstat).

lmdown

NAME

lmdown – Shuts down the license daemon

SYNOPSIS

```
lmdown [-c <license file>] [-v vv_d2]
```

DESCRIPTION

lmdown shuts down any running lmgrd processes and associated vendor daemons such as vv_d2. If you are using lmgrd to manage multiple vendor daemons, you can stop specific vendor daemons by specifying the -vendor option.

lmgrd

NAME

lmgrd – Main license manager daemon

SYNOPSIS

```
lmgrd [-c license file] [-t timeout] [-l logfile] [-s
timestamp_interval] [-v] [-x lmdown] [-x lmremove]
```

DESCRIPTION

lmgrd is the main FLEXlm daemon responsible for organizing and communicating with the vendor daemons. When lmgrd is run, it must reference a license file (via -c, or use the default file, if it exists). The license file contains information about the vendor daemon and features associated with it. To stop the daemon, either run "lmdown" or kill the lmgrd process explicitly. The vendor daemon should not be killed manually.

OPTIONS:

-t

timeout Sets the timeout interval (in seconds) in which redundant daemons need to connect to each other. Default = 10 seconds.

-l

logfile Specifies the name of the log file.

-s

timestamp_interval Specifies the interval (in minutes) to time stamp the log file. Default = 360 minutes.

-v

Prints the version number.

-x

lmdown Disallow the lmdown command. To stop the daemon, the process must be killed.

-x

lmremove Disallow the lmremove command.

lmhostid

NAME

lmhostid – Prints the lmhostid of the system

SYNOPSIS

```
lmhostid [-n]
```

DESCRIPTION

lmhostid prints the lmhostid of the system, usually used for generating license keys. The -n option causes program to suppress the header output.

lmremove

NAME

lmremove – Revokes a license from a user

SYNOPSIS

```
lmremove [-c license file] feature user host display
```

or

```
lmremove [-c license file] -h feature host port handle
```

DESCRIPTION

lmremove revokes a license from a user, typically used when the client node crashes and does not automatically free a license. Information about most of the options used with lmremove can be obtained via "lmstat -a".

lmreread

NAME

lmreread – Forces the license daemon to reread the license file

SYNOPSIS

```
lmreread [-c <license_file>] [-vendor vv_d2]
```

DESCRIPTION

lmreread causes the vendor daemon to reread the license file and update itself on any new feature licensing information and start any new vendor daemons. You can stop and restart a single vendor daemon by running "lmdown -vendor <name>" followed by "lmreread -vendor <name>".

lmstat

NAME

lmstat – Displays the status of licensing activities

SYNOPSIS

```
lmstat [-a] [-A] [-c license_file] [-f feature] [-S vendor]
[-s hostname]
```

DESCRIPTION

lmstat shuts down any running lmgrd processes and associated vendor daemons such as vv_d2. If you are using lmgrd to manage multiple vendor daemons, you can stop specific vendor daemons by specifying the -vendor option.

OPTIONS:

-t

timeout Sets the timeout interval (in seconds) in which redundant daemons need to connect to each other. Default = 10 seconds.

-a

Displays all information.

-A

Lists active licenses.

-f feature

Lists activity of feature.

-S vendor

Lists activity of vendor (daemon).

-s hostname

Lists activity of host.

lmutil

NAME

lmutil – General collection of tools for handling licensing

SYNOPSIS

```
lmutil [utility] [options...]
```

DESCRIPTION

lmutil contains a set of utilities useful for handling licenses and license daemons. These utilities can be accessed directly if lmutil is renamed to the specific utility (usually via hard links), or they can be accessed by specifying the utility name as the first option. Please refer to the sections on each utility for more information about their operations (lmdiag, lmdown, lmhostid, lmremove, lmreread, lmstat).

Appendix D: Glossary

Glossary term	Term definition
ADF	Automatic document feeder
ASCII	An acronym for American Standard Code for Information Interchange. A code in which the numbers from 0 to 127 stand for text characters. ASCII code is used for representing text inside a computer and for transmitting text between computers or between a computer and a peripheral device.
automatic document feeder (ADF)	A device that allows you to scan multiple pages without having to place each page in the scanner. Some ADFs are built into scanners; others are add-on products.
bit-mapped image	A collection of bits (dots) in memory that represent the scanned image. The display on the screen is a visible bit-mapped image.
conversion filter	A program that translates one file format into another. For example, the 'mpage' conversion filter can translate an ASCII file into a PostScript file.
device driver	A program that manages the transfer of information between the computer and a peripheral device such as a scanner.
dithering	A method of representing an image using fewer colors than the image actually has.
dpi	An abbreviation for dots per inch. This is the number of dots per linear inch that a printer can print or a scanner can produce. See also resolution.

Glossary term	Term definition
driver	See device driver
monospaced font	Any font in which all characters have the same width. For example, in Courier New (a monospaced font), the letter "M" is the same width as the letter "l." Thus, "MMMMM" is the same width as "lllll".
peripheral	At or outside the boundaries of the computer itself, either physically (as a peripheral device) or logically (as a peripheral card). Pixel is short for picture element. A point (dot) on the graphics screen.
point	A typographic unit of measurement equal to 1/72 inch, measured vertically. Points are used to describe font size.
proportional font	Any font in which characters differ in width. For example, in the proportional font used here, the letter "M" is wider than the letter "l". Thus, "MMMMM" is wider than "lllll."
resolution	The fineness with which a scanner, printer, or other device produces information. It is expressed in dots per inch (dpi). A higher dpi produces a sharper image.
swap file	An area of the hard disk that is used for temporary data storage when RAM is low or used up. This is also known as virtual memory. A swap file lets you run more programs than you could with actual memory, but it is slower than using regular memory.
text file	A file containing information in text form; its contents are interpreted as characters encoded using the ASCII (or comparable) format.
TIFF	An abbreviation for tagged image file format. This is a standard graphic file format for grayscale and high-resolution bit-mapped images.

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